AD 697 138

SYSTEM ID. VOLUME II. CONVERSION PROGRAMS FOR SDI

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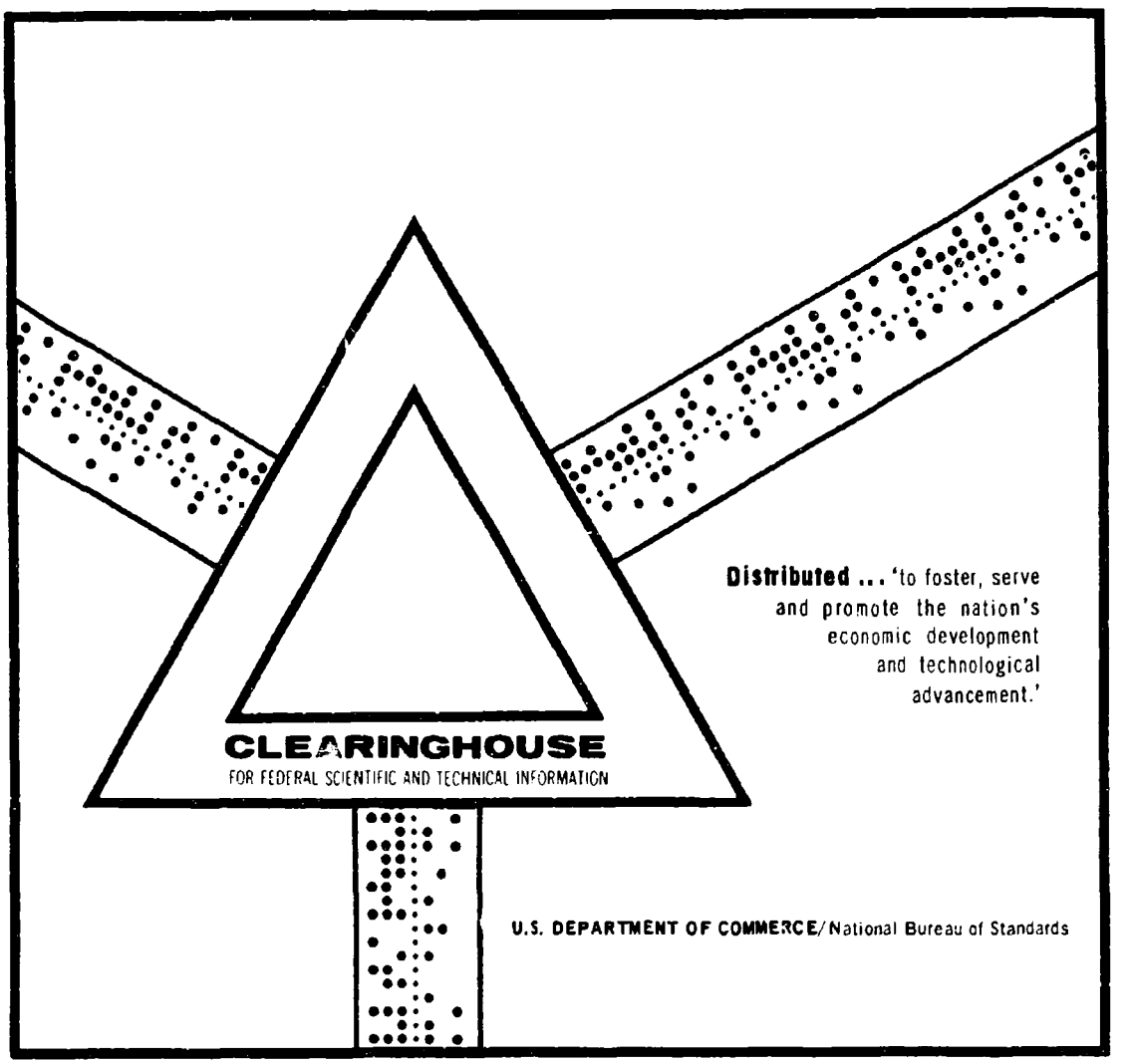
Wolf Research and Development Corporation
Bladensburg, Maryland

November 1969



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AD697138

VOL II

FLOW

RESEARCH AND DEVELOPMENT CORPORATION

AN COMPANY

NOV 20 1969

93

Nov 69

System ID:

Title: Conversion Programs for SDI

Purpose of System: The system is used to convert the National Library of Medicine tapes to an acceptable mode and parity for use in the Selective Dissemination of Information system.

Requested By:

Analyst: Jack D. Mahle

Programmer: Jack D. Mahle

Documented By: Sally Lukasiewicz

Date Last Revised:

Source Language: COMPASS/COBOL

Computer: CDC 3150

Required Components: Card Reader
Printer
2 tape units
4 disk packs

Object Time Storage Requirements -

Main Memory:

Secondary:

for public
distribution

Security Classification -

Program:	Unclassified
Data:	Unclassified

Reviewed By:	Approved By:
/s/ Branch Chief	/s/ Division Chief

Chief, Systems Branch	Chief, Data Systems Division

SYSTEM DESCRIPTION

SYSTEM TITLE: Conversion Programs for SDI

OBJECTIVES OF THE SYSTEM:

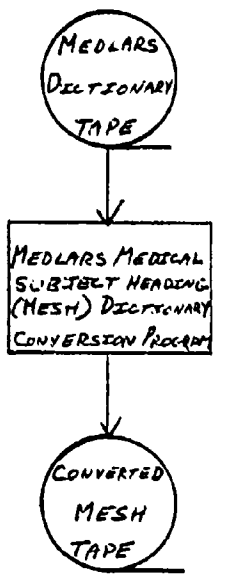
1. Reformat and convert the MEDLARS Medical Subject Heading (MESH) Dictionary to BCD mode, even parity.

2. Reformat and convert the Retrieved Citation File (RCF) to BCD mode, even parity.

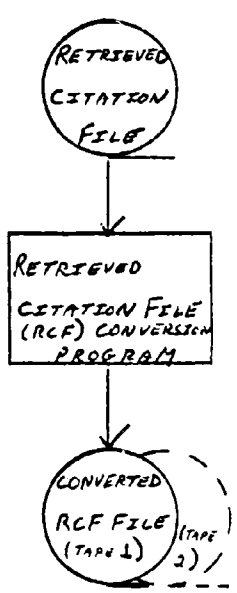
3. Transfer the Converted MESH Tape and Converted RCF File from tape to disk. Print the files when requested. Eliminate duplicate Main Heading Codes from the Converted RCF File.

4. Sort the Converted MESH-Disk file into sequence by English Main Heading.

OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER
PAGE NUMBER 1 OF 2

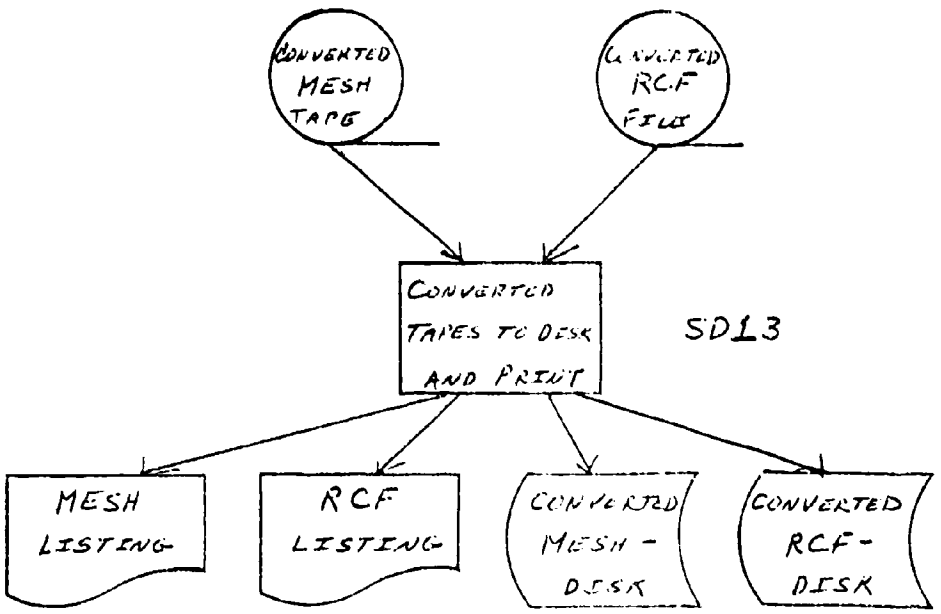


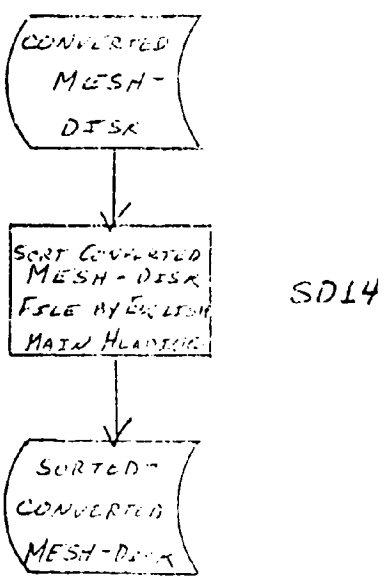
SD11



SD12

OFFICE SYMBOL _____
SYSTEM CHART NO. _____
RUN NUMBER _____
PAGE NUMBER 2 OF 2





PROGRAM ID:	"MDTCONV"
TITLE:	"MEDLARS Medical Subject Heading (MESH) Dictionary Conversion Program
PURPOSE OF PROGRAM:	The Medical Subject Heading (MESH) Dictionary portion of the MEDLARS Dictionary Tape (MDT) is converted from mixed mode (binary and BCD), odd parity to BCD mode, even parity.

PROGRAM DESCRIPTION

PROGRAM TITLE: MEDLARS Medical Subject Heading (MESH) Dictionary Conversion Program

OBJECTIVES OF THE PROGRAM:

The input to this COMPASS conversion program is the MEDLARS Dictionary Tape (MDT) received periodically (usually monthly) from the National Library of Medicine (NLM), for use in the Selective Dissemination of Information (SDI) system. The tape is produced on the NLM Honeywell 800 computer. It is mixed mode (binary and BCD), odd parity. It uses the Honeywell character set which differs slightly from the CDC character set. The tape must be converted to BCD mode, even parity and the differing characters must be translated to be used in the COBOL programs of SDI.

The MDT contains six separate subfiles, one of which is the Medical Subject Heading (MESH) Dictionary. The other files are not used in the SDI system. The MESH subfile is not separated from the preceding files by an end-of-file indicator.

The MESH input record is variable in length with a maximum size of 2056 characters. However, only a portion of the information from the complete MESH record is needed. This portion is the "Main Heading Code" and its corresponding "English Main Heading." The Main Heading Code is a 17-bit binary number. It is converted to an eight digit BCD number. The English Main Heading on the

MDT is BCD so it is not necessary to convert it. Blanks, however, in the Honeywell character set are octal 15 which in the CDC character set is a "≤"; therefore, 15's must be translated to octal 60.

The Converted MESH Tape is used as input to the Converted Tapes to Disk and Print program.

CVTBBCD, the binary to BCD conversion routine used in this program, is from APPENDIX A, pp. A-45, A-46 of the CDC COMPASS Programming Training Manual (Pub. No. 60184200).

Appendix A of this documentation gives a detailed description of the input MEDLARS Dictionary Tape. Appendix A is a duplication of part of NLM's documentation of the entire MDT. Reference is made to figures 5, 6 and 7. Only figure 7, the format of the MESH sub-file, is included in this documentation. Figure 7 follows Appendix A. Figures 5 and 6 are not included as they relate to sub-files other than the MESH.

APPENDIX A

MEDLARS Dictionary Tape (MDT)

The tape layout of the MDT conforms to many of the same conventions described in the CCF. This tape however contains six separate subfiles. Those subfiles needed in conjunction with the CCF are the LANDS (Language and Subheading) file, JRF (Journal Record File), and the MeSH (Medical Subject Heading) file. These subfiles are not separated by end of file records.

The file identification, word 2 in the second record on tape, contains the word MEDICTΔΔ. The subfiles immediately follow in the next records. They are identified by sub-file identification of LANDS, JRFΔΔ, or MeSHΔ in word 2 of the record. Within the LANDS file (Figure 5) there is a LANDS record for each 6-bit code possible. The code is duplicated 8 times within one word. Spaces appear in the fields if the code is not assigned. The subheading is 3 words or 24 characters. The language abbreviation is 5 characters.

The relative frequency of usage is found in bits 31-48 of word 7. Beginning in word 8 is a variable length field containing the 8-bit representation of the Language and the subheading.

The JRF record, represented in Fig. 6 contains the JTC (Journal Title Code) in word 3 of the record. The corresponding JTA (Journal Title Abbreviation) is 8 words in length beginning in word 9. This field may contain any of the case codes and diacritics shown in Fig. 4. The JRF normally would not be necessary to the use of the CCF since the JTA is found in the citation body. However, it does contain the complete list of journals with their code assignments. All words after word 16 pertain to publication information (frequency, last issues received, etc.) and the 8-bit representation of the Journal Title.

Description of the MeSH Record

All records in the MeSH sub-file (Figure 7) contain a banner word and two ortho-words and an end of record word. The description of these can be found in the CCF section.

The MeSH data record is of variable length, with a maximum size of 254 words. Each record contains only one item.

Word by Word Description of the MeSH Record

Word 1:

A. Bits 1-30 = MeSHΔ. This is the sub-file identification. It identifies the record as a part of the MeSH Sub-file of the MEDLARS Dictionary Tape.

B. Bits 31-32 = not used.

C. Bits 33-48 = Item Word Count. This is a count in binary of the number of computer words in the item. The EOI is included in this count but the banner word is excluded.

Word 2:

A. Bits 1-24 = Tally. This is a binary tally of the number of times that the Medical Subject Heading has been used in indexing.

B. Bits 25-41 = Main Heading Code. This is a six digit octal number assigned to a Medical Subject Heading, (17 bits only). This code corresponds to the order of the English Main Headings on the file. (Where the MHC and alternate MHC differ, the tally will be found in that record which corresponds to the order in which the records are placed by a machine sort on English Main Headings).

C. Bits 42 = not used.

D. Bits 43-48 = Type Code. This identifies the transaction type. For a main heading, the 6 bit type code is always 1.

Word 3:

A. Bits 1-7 = Form Tag Code. This is a binary code used to indicate that the form of entry of citations in Index Medicus is not the standard form of entry. The code for Non-IM citations is used to exclude the citation from Index Medicus. The codes in binary are the following:

0000001 = Review
0000010 = Biographies
0000011 = Non-IM Citations
0000100 = Obituaries

B. Bits 8-12 = not used.

C. Bits 13-18 = Tag Override Code. This is a binary code used to safeguard against indexing or typing errors which would result in a non-IM Medical Subject Heading being designated as an IM Heading.

D. Bits 19-24 = not used.

E. Bits 25-41 = Alternate Main Heading Code. This 6 digit octal number distinguished those main heading codes whose printing sequence differs from the sequence in which they are filed internally in the computer. This is the code that is placed in the CCF records.

F. Bits 42-45 = not used.

G. Bit 46 = Bibliography of Medical Reviews Indicator. This bit indicates that the Main Heading has appeared in BMR.

H. Bit 47 = Cumulated Index Medicus Indicator. This bit indicates that the Main Heading will appear in CIM.

I. Bit 48 = Index Medicus Indicator. This bit indicates that the Main Heading has appeared in Index Medicus.

Word 4:

A. Bits 1-6 = Alternate Indicator. This entry is required if the Medical Subject Heading is out-of-sequence because of conflict between library rules for listing and the computer rules for listing. The indicator will appear as the 6 bit code for an equal sign (13_8) or the 6 bit code for an asterisk (54_8). The MHC and alternate MHC will differ at the *term, and *term will carry the tally.

B. Bits 7-18 = not used.

C. Bits 19-24 = Number of Tree Words. A main heading may have up to, but not more than, four tree words or classification numbers. This entry gives the number of TREE words for each main heading.

D. Bits 25-30 = Relative location of GRACE Message #1. This entry gives the relative location within the record of the GRACE message without categories.

E. Bits 31-36 = Relative location of the Recurring Bibliography Numbers. This entry gives the relative location within the record of the Recurring Bibliography Numbers.

F. Bits 37-40 = Relative location of GRACE Message #2. This entry gives the relative location within the record of the GRACE message with categories.

Words 5-10:

These six words are allowed for the 6 bit English Main Heading with trailing spaces (48 characters). This field will not contain any upper or lower case indicators or any special characters other than the hyphen, comma, parentheses or apostrophe.

Words 11-12:

These two words are used to indicate those subheadings which may be used with this main heading. Bits 1-48 of word 11 are used for subheadings codes 0 through 47. Bits 1-16 of word 12 represent the subheadings whose codes are 48-63. These bits are used as follows. If a one appears in the appropriate bit position then the subheading with the corresponding code may be used with the main heading. If a zero appears, then usage of the corresponding subheading is illegal in conjunction with this main heading.

Word 13:

A. Bits 1-36 = Six Digit Code. This is the Main Heading code in 6 bit format. This information is no longer used.

B. Bits 37-48 = Not Used.

Tag Word:

A. Bits 1-24 = Not Used.

B. Bits 25-27 = Tag Group. This entry defines the type of main heading. The 3 bit codes are as follows:

0 = Standard Main Heading (IM and non-IM)
1 = Geographic Headings
2 = Public Health Service Headings
3 = Provisional Headings
4 = Form Tag or Type of Article

} NON-IM only

C. Bits 28-48 = Tree Word or Classification Number. If the heading has been assigned to a category this 21-bit-code represents the position this main heading occupies in a tree structure. The number is in the form AXX.XXX.XX.X (A = alphabetic character and X = decimal character). The first part of the number defines the category to which the tag belongs, and the other sections define the level of the number. (See detailed description of CCF record). A main heading may have up to 4 classification numbers, each one occupying bits 28-48 of a separate word.

GRACE Message #1:

Bits 1-8 of the first word of this message give in octal representation the number of GRACE lines used in the message. Bits 9-16 give an octal count of the 8 bit characters in the first GRACE line. Bits 17-24 give an octal count of the 8 bit characters in the second GRACE line and etc., depending on the number of GRACE lines in the message. Following this is the Main Heading, (without categories attached) in 8-bit GRACE code.

GRACE Message #2:

Bits 1-8 of the first word of this message give in octal the number of GRACE lines in the message. Bits 9-16 give an octal count of the 8 bit characters in the first GRACE line. Bits 17-24 give an octal count of the 8-bit characters in the second GRACE line and etc., depending on the number of GRACE lines in the message. Following this is the Main Heading with categories attached, in the 8 bit GRACE code.

Recurring Bibliography Word:

This field contains a 6-bit bibliography number and an 8-bit sub-bibliography number for every bibliography the main heading qualifies. There are three bibliography and sub-bibliography numbers per word. Immediately following this variable field is the END OF ITEM WORD.

MDT SUBFILE

[illegible] .....
Prepared by [illegible] For Program [illegible] .....
By Programmer ..... Checked by .....
Date [illegible] 1953 ..... Remarks .....
Modification ..... Page ..... of ....

(BANNER word is first word in record)

	1	2	3	4	5	6	7	8
	M	E	S	H		Open Item	Word Count	
1	Sub-File		ID					
2	Tally				Main Heading Code			(0 00000)
3	Form Tag	00000	Tag Over-ride	Open	Alt. Main Heading Code			
4	Alternate Indicator	Open		No Tree Words	[illegible] Mess #1	[illegible] Recurring Bib No	Open	[illegible] Mess
5-10	English Main Heading (6 words)							
11-12	Allowable Sub-Headings (2 words)							
13	Six digit code						Open	
14					Tag Group	Tree Word (Variable)		
	No Grace Lines Mess #1	Image Char Count	Image Char Count		Open			
	Grace Message #1, Without Categories (Variable)							
	No Grace Lines Mess #2	Image Char Count	Image Char Count		OPEN			
	Grace Message #2, with Categories (Variable)							
	Bib No. 1	Sub-bib No. 1	Bib No. 2	Sub Bib No. 2	Bib No. 3	Sub-bib No. 3		
	Additional Bib and Sub-bib Numbers (Variable)							
	End of Item Word							
		2	3	4				

1. All locations are relative to the banner word
2. Each record [illegible]
3. Each record [illegible]

PROGRAM ID:	"RCFCONV"
TITLE:	Retrieved Citation File (RCF) Conversion Program
PURPOSE OF PROGRAM:	The Retrieved Citation File (RCF) is converted from mixed mode (binary and BCD), odd parity to BCD mode, even parity.

PROGRAM DESCRIPTION

PROGRAM TITLE: Retrieved Citation File (RCF) Conversion Program

OBJECTIVES OF THE PROGRAM:

The Retrieved Citation File (RCF) is used as input to this COMPASS program. The file is produced monthly on the National Library of Medicine (NLM) Honeywell 800 computer. It is in mixed mode (binary and BCD), odd parity and uses the Honeywell character set which differs from the CDC character set. The RCF tape must be converted to BCD mode, even parity and the characters differing must be translated for use in the COBOL programs of the Selective Dissemination of Information system.

The RCF input record is variable in length with a maximum size of 2056 characters. The records which are to be converted and translated are recognized by a "R" in character 13 of the RCF record.

Only certain fields within the Retrieved Citation File record are necessary for the SDI system. The "Citation Number," citation body (this consists of the author, title, volumes, pages, publication date and other bibliographic information), "Number of Tag Words," and "Main Heading Codes" (these vary according to the number of tag words) are the fields used.

The Citation Number is a 20-bit binary number which is converted to an eight digit BCD number. Likewise, the Number of Tag Words must be converted from a 4-bit binary number to a two digit BCD number and the Main Heading Codes which are 17-bit binary numbers must be changed to eight digit BCD number. Each character of the citation body has to be checked to determine if it must be translated from the Honeywell octal value to the CDC octal value. The Honeywell octal values that are translated to a CDC octal value are shown in Table B-1.

The output converted RCF File is a fixed length record although the number of Main Heading Codes varies and the length of the citation body is not fixed. The unused portions of the output record are blank filled to insure acceptable records for the Converted Tapes to Disk and Print COBOL program.

A maximum of 11,000 records are written on the first output file. When this limit is reached another scratch tape is required to process the remaining input records.

CVTBBCD, the binary to BCD conversion routine used in this program, is from APPENDIX A, pp. A-45, A-46 of the CDC COMPASS Programming Training Manual (Pub. No. 60184200).

Appendix B gives a detailed description of the input Retrieved Citation File. It is a duplication of NLM's documentation of the RCF. The Figure 1 referenced in Appendix B immediately follows the Appendix.

APPENDIX B

Retrieved Citations File

The Retricved Citations File is the final file of the Demand Search Module. It contains the requestor IDs and the retrieved citations.

Description of the RCF Data Record

The RCF data record is of variable length. The maximum record length is 254 words. Each citation record contains one RCF item (detailed in Figure 1).

Word by Word Description of RCF Item

Word 1:

A. Bits 1-18 = Request Number. Binary representation of the number of the request.

B. Bits 19-24 = Sub-Search Code. Alpha representation of the Sub-search code word A, B, or C.

C. Bits 25-30 = R. Alpha representation indicating that this is the Request Statement.

D. Bits 31-40 = Item Word Count. Binary count of computer words in this item. This count does not include the banner word, but does include the EOI word.

Word 2:

A. Bits 1-17 = Place of publication. Seventeen bit binary code whose English equivalent may be found in the MeSH file of the MDT as a main heading code.

B. Bits 18-29 = Year of publication. Binary representation of year.

C. Bits 30-32 = not used.

D. Bits 33-48 = Item Word Count. Binary count of computer words in this item on the CCF file.

Word 3:

A. Bits 1-20 = Citation number. A binary number assigned serially to each citation.

B. Bits 21-24 = Sub-search code. Binary representation of the Sub-search code representing A, B, or C for Report Generator.

C. Bits 25-42 = Journal Title code. Three alphanumeric characters which represent the equivalent journal name.

D. Bits 43-48 = Language code. Six bit binary code whose English equivalent may be found in the LANDS file of the MDT.

Word 4:

A. Bits 1-7 = Form code. Seven bit binary number denoting form. At present these codes represent:

0 = Standard
1 = Review
2 = Biography
3 = Famous Persons
4 = Obituary

B. Bits 8-12 = Subform code. The binary codes represent:

0 = Standard
1 = Anonymous
2 = Non-standard pagination
3 = Anonymous non-standard pagination

C. Bits 13-18 = Indexer Number.

D. Bits 19-24 = Typist Number.

E. Bits 25-37 = Date of Entry. Binary representation of date citation entered the system. The code is in the form:

Bits 25-28 = year, where 1962=0, 1963=1, etc.
Bits 29-32 = month
Bits 33-37 = day

F. Bits 38,39 = not used.

G. Bits 40,41 = Type of Author. These codes are assigned as follows:

0 = Standard
1 = Compiler
2 = Editor
3 = Both Compiler and Editor

H. Bit 42 = Indicator. This bit (1) indicates a journal not routinely indexed.

I. Bits 43-48 = Number of Tag Words. Binary count of words which immediately follow this one and which contain main heading codes. The number of tag words is variable.

Word 5: (Variable number of these words)

A. Bits 1-17 = Main Heading Code. This 17 bit code may be found on the MeSH file of the MDT with its English equivalent.

B. Bits 18-23 = Subheading code. Six bit binary code representing the Subheading. This code and its English equivalent may be found in the LANDS file of the MDT. (Not used at present.)

C. Bit 24 = IM Indicator. 0 = a non-IM tag; 1=IM. The setting indicates whether or not this citation will appear in INDEX MEDICUS under this main heading.

D. Bits 25-27 = Tag Group. A 3 bit code representing the tag group. These are as follows:

0 = Standard main heading
1 = Geographic main heading
2 = Public Health support main heading
3 = Provisional main heading
4 = Type of article

E. Bits 28-48 = Classification Number. A 21 bit code representing the position this main heading occupies in a tree structure, if the heading has been assigned to a category. The classification number is in the form: AXX. XXX. XX. X where A = alphabetic character and X = decimal character. The first part of the number defines the category to which the tag belongs. The other sections define the level of the number. Within the 21 bits the number is broken into a 7.7.6.1 allocation. The first 7 bits represent the category assigned to this code. The next seven bits represent the number assigned at the second level; the next 6 bits indicate a third level term; the last bit indicates the tag is a fourth level term. These sections are zero if not used.

A main heading may have a variable number of classification numbers up to 4. For each number assigned to the main heading occupies a new word. For each separate subheading assigned with a main heading a new word is created. The maximum number of tag words is 32.

The classification number is located on the MeSH file with its main heading.

Citation Body: (For further detail, consult the Description of the CCF Item)

The remainder of the words in the item comprise the citation body. This information is in 6-bit code packed 8 to a word. The fields are separated by special code configurations.

1. Author. There are two types of author names. The sort author is preceded by a left-justified (73_8). The print name appears only if the name does not conform to the pattern under sort name. An octal 77 left-justified in the word marks the end of the authors or indicates an anonymous author.

2. Title. Field is a variable number of characters beginning with the 77_8 and ending with 37_8. This field contains the title of the article in English with all code possibilities detailed in Figure 2.

3. Journal Title Abbreviation. Field is enclosed by 37_8 and 56_8.

4. Volume. This field begins with 56_8 and ends with 57_8. It denotes the volume number of the journal.

5. Pagination. This field represents the page numbers of the article to which the citation refers. It is enclosed by a 57_8 and a 76_8.

6. Publication Date. The date of publication is enclosed by a 76_8 and 36_8.

7. Vernacular. This field is the vernacular version of the foreign language title, if the article is foreign. It ends with a 53_8.

8. References. This field contains the number of references made to other material if the citation is a review article. The field is enclosed by a 53_8 and a 52_8. It is not necessary for each field to be present. If a field is missing only the begin and end symbols are present.

9. Issue Number. Right justified twelve bits of the EOI word are used to express the issue number.

LAYOUT FORM-ITEM DESIGN
(Alphanumeric)

RETRIEVED CITATION FILE

red by R.O. [illegible] For Program [illegible]

ogrammer Checked by

9-[illegible] Remarks

ication Page ..... of ....

1	2	3	4	5	6	7	8
BANNER WORD							
REQUEST NUMBER BINARY			SUB-SEARCH CODE	R	ITEM WORD COUNT		
PLACE OF PUBLICATION (17)			YEAR OF PUBLICATION (12)	R B	ITEM WORD COUNT (16)		
CITATION NUMBER (20)			SUB-SEARCH CODE	JOURNAL TITLE CODE			LANGUAGE CODE
FORM (7)	SUB (5) FORM	INDEX NUMBER	TYPIST NUMBER	DATE OF ENTRY (13)			NO. OF [illegible]
MAIN HEADING CODE (17)			SUB (6) HEADING	I M TAG 3 GROUP	CLASSIFICATION NUMBER [illegible]		[illegible]
MAIN HEADING CODE			SUB HEADING	I M TAG GROUP	CLASSIFICATION NUMBER		
AUTHORS (SPACE FILL)							
77 TITLE 37	JTA 56	VOL. 57	Pag. 76	PUBLICATION DATE 36			
REF.							
EOI						ISSUE NUMBER [illegible]	
ORTHO 1							
ORTHO 2							
EOR							
1	2	3	4	5	6	7	8

Subsearch code word 2 - A, B, or C
Subsearch code word 4 - 1, 2, or 3 to represent A, B, or C for Report Generator. [illegible]

Figure 1

CHARACTER SET TRANSLATION TABLE
FOR NLM'S RETRIEVED CITATION FILE TAPE

HONEYWELL CHARACTER	(OCTAL VALUE)	CDC CHARACTER	(OCTAL VALUE)
'	14	Δ (a blank)	60
Δ	15	Δ	60
;	32	;	37
%	35	%	16
"	55	≠	14
CONTROL CHARACTERS	16	IGNORED	
	17	IGNORED	
	20	IGNORED	
	75	IGNORED	
CITATION BODY ITEM SEPARATORS	36	Δ	60
	37	Δ	60
	52	Δ	60
	53	Δ	60
	56	Δ	60
	57	Δ	60
	72	Δ	60
	73	Δ	60
	76	Δ	60
	77	Δ	60

TABLE B-1

PROGRAM ID:	"CVTTODAP"
TITLE:	Converted Tapes to Disk and Print
PURPOSE OF PROGRAM:	The Converted MESH Tape and the Converted RCF File are transferred from tape to disk with the options to print none of the tapes, either tape or both tapes.

PROGRAM DESCRIPTION

PROGRAM TITLE: Converted Tapes to Disk and Print

OBJECTIVES OF THE PROGRAM:

The Converted MESH Tape and the Converted RCF File are the input tapes to this COBOL program. The records of both files are written to disk in the same format, but blocked for use in the Selective Dissemination of Information system.

The option to print the files exists. The character typed in response to the console message determines the printed output as follows:

0 - Neither Tape Printed
1 - Converted MESH Tape Printed
2 - Converted RCF File Printed (First 100 Records)
3 - Both Tapes Printed

When the Converted RCF File is transferred to disk, a check is made to determine if duplicate "Main Heading Codes" exist. All duplicate codes are eliminated and the "Number of Main Heading Codes" is adjusted accordingly. Only the first one-hundred (100) records of the Converted RCF File are printed when an option to print the tape is given.

The Converted MESH Tape is transferred record by record to disk. The complete tape is printed under options "1" and "3."

PROGRAM ID:	"MESHSORT"
TITLE:	Sort Converted MESH-Disk File by English Main Heading
PURPOSE OF PROGRAM:	This sort puts the Converted MESH-Disk file in ascending order by standard BCD collating sequence. The sort key is the English Main Heading (positions 01-48).

3150 OPERATING INSTRUCTIONS

MAX.TIME 20 SEQUENCE NO. _____

RUN ID SD11 RUN NAME MEDLARS, Medical Subject Heading (MESH) Dictionary Conversion Program

REQUESTER _____ ATTEND _____ AUTH. _____

COST CENTER 5730 WORK CODE 000 STEP 1

FORE/BACK _____ MSOS/OTHER _____

JUMP SWITCH: 1. _____, 2. _____, 3. _____, 4. _____, 5. _____

MAG.TAPE:

IN:	UNIT	LUN	LABEL	REEL	RING	DISPOSITION
	1	1	MEDLARS Dictionary Tape			
OUT:	2	2	Converted MESH tape			

CARDS:

IN: LABEL _____ DISPOSITION _____

OUT: LABEL _____ DISPOSITION _____

DISK:

PACK NO. _____, _____, _____, _____

PRINTER:

LABEL _____ FORM NO. _____ PARTS ____ CARRIAGE TAPE _____

PAPER TAPE:

IN: LABEL _____ DISPOSITION _____

OUT: LABEL _____ DISPOSITION _____

SPECIAL INSTRUCTIONS:

SMUFD FORM 2006 (Test)
(Aug 68)

HALTS:

NO. CAUSE/CORRECTIVE ACTION

OPERATOR COMMENTS:

3150 OPERATING INSTRUCTIONS

MAX.TIME 35 SEQUENCE NO. _____

RUN ID SD12 RUN NAME Retrieved Citation File (RCF) Conversion Program

REQUESTER _____ ATTEND _____ AUTH. _____

COST CENTER 5730 WORK CODE 000 STEP 2

FORE/BACK _____ MSOF/OTHER _____

JUMP SWITCH: 1. _____, 2. _____, 3. _____, 4. _____, 5. _____

MAG.TAPE:

IN:	UNIT	LUN	LABEL	REEL	RING	DISPOSITION
	1	1	Retrieved Citation File			
OUT:	2	2	Converted RCF File			

CARDS:

IN: LABEL _____ DISPOSITION _____

OUT: LABEL _____ DISPOSITION _____

DISK:

PACK NO. _____, _____, _____, _____

PRINTER:

LABEL _____ FORM NO. _____ PARTS ____ CARRIAGE TAPE _____

PAPER TAPE:

IN: LABEL _____ DISPOSITION _____

OUT: LABEL _____ DISPOSITION _____

SPECIAL INSTRUCTIONS: When console message requests NEW tape, dismount LUN 2 and SAVE, Mount new scratch tape, ready and press GO.

SMUFD FORM 2006 (Test)
(Aug 68)

HALTS:

NO. CAUSE/CORRECTIVE ACTION

OPERATOR COMMENTS:

3150 OPERATING INSTRUCTIONS

MAX.TIME 90 SEQUENCE NO. _____

RUN ID SD13 RUN NAME Converted Tapes to Disk and Print

REQUESTER _____ ATTN'D _____ AUTH. _____

COST CENTER 5730 WORK CODE 000 STEP 3

FORE/BACK _____ MSOF/OTHER _____

JUMP SWITCH: 1. _____, 2. _____, 3. _____, 4. _____, 5. _____

MAG.TAPE:

	UNIT	LUN	LABEL	REEL	RING	DISPOSITION
IN:	1	1	Converted RCF File			
	2	2	Converted MESH Tape			
OUT:						

CARDS:

IN: LABEL _____ DISPOSITION _____

OUT: LABEL _____ DISPOSITION _____

DISK:

PACK NO. 1999 tracks, 200 tracks, _____, _____

PRINTER:

LABEL _____ FORM NO. STD PARTS 1 CARRIAGE TAPE STD

PAPER TAPE:

IN: LABEL _____ DISPOSITION _____

OUT: LABEL _____ DISPOSITION _____

SPECIAL INSTRUCTIONS: Type In number when requested as follows:

0 - Neither tape to be printed

1 - Converted MESH Tape to be printed (LUN 2)

2 - Converted RCF File to be printed (LUN 1)

3 - Both Tapes to be printed

SHUFD FORM 2006 (Test)
(Aug 68)

HALTS:

NO.	CAUSE/CORRECTIVE ACTION
1. The Physical Limits of the CONVRCFDISK File Have Been Exceeded. You Must Allocate More Space and Rerun the Program. The Program Stops.	Reallocate and Rerun
2. The Physical Limits of the CONVMDTDISK File Have Been Exceeded. You Must Allocate More Space and Rerun the Program. The Program Stops.	Reallocate and Rerun

OPERATOR COMMENTS:

3150 OPERATING INSTRUCTIONS

MAX.TIME 15 SEQUENCE NO. _____

RUN ID SD14 RUN NAME Sort Converted MESH - Disk File by English Main Heading

REQUESTER _____ ATTLND _____ AUTH. _____

COST CENTER 5730 WORK CODE 000 STEP 4

FORE/BACK _____ MSOS/OTHER _____

JUMP SWITCH: 1. _____, 2. _____, 3. _____, 4. _____, 5. _____

MAG.TAPE:

IN:	UNIT	LUN	LABEL	REEL	RING	DISPOCITION
OUT:						

CARDS:
IN: LABEL _____ DISPOSITION _____

OUT: LABEL _____ DISPOSITION _____

DISK:
PACK NO. _____, _____, _____, _____

PRINTER:
LABEL _____ FORM NO. _____ PARTS ____ CARRIAGE TAPE _____

PAPER TAPE:
IN: LABEL _____ DISPOSITION _____

OUT: LABEL _____ DISPOSITION _____

SPECIAL INSTRUCTIONS:

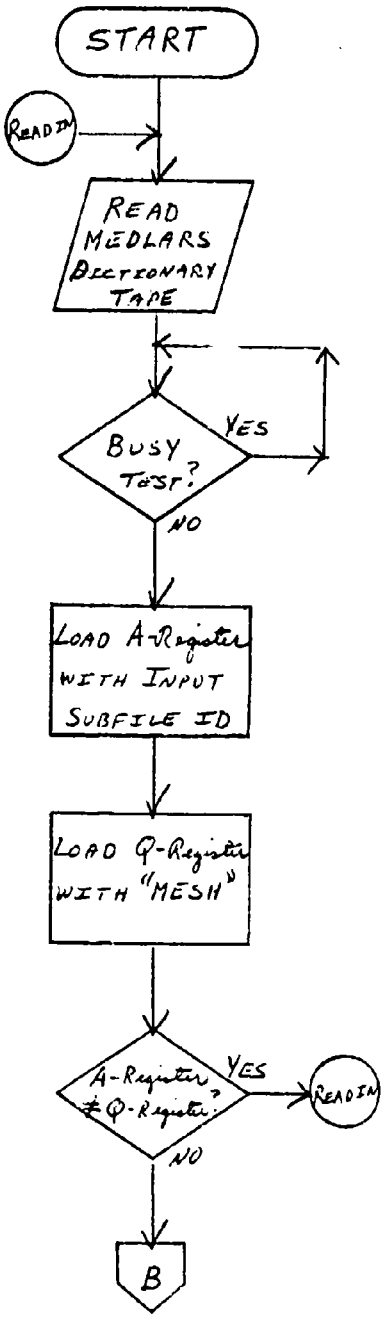
SMUFD FORM 2006 (Test)
(Aug 68)

HALTS:

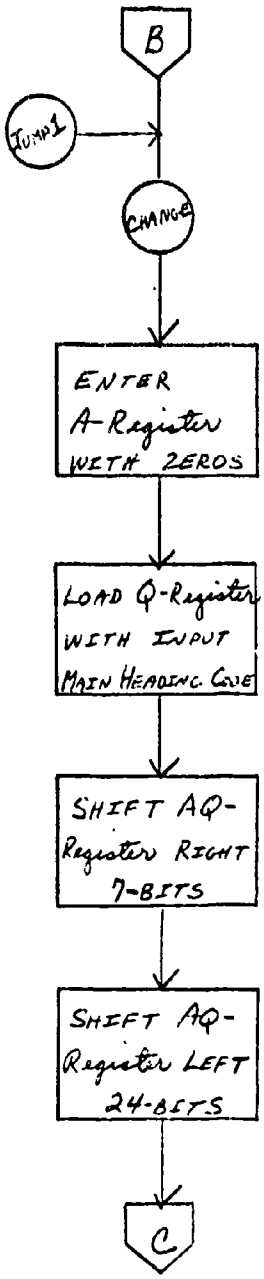
NO.	CAUSE/CORRECTIVE ACTION

OPERATOR COMMENTS:

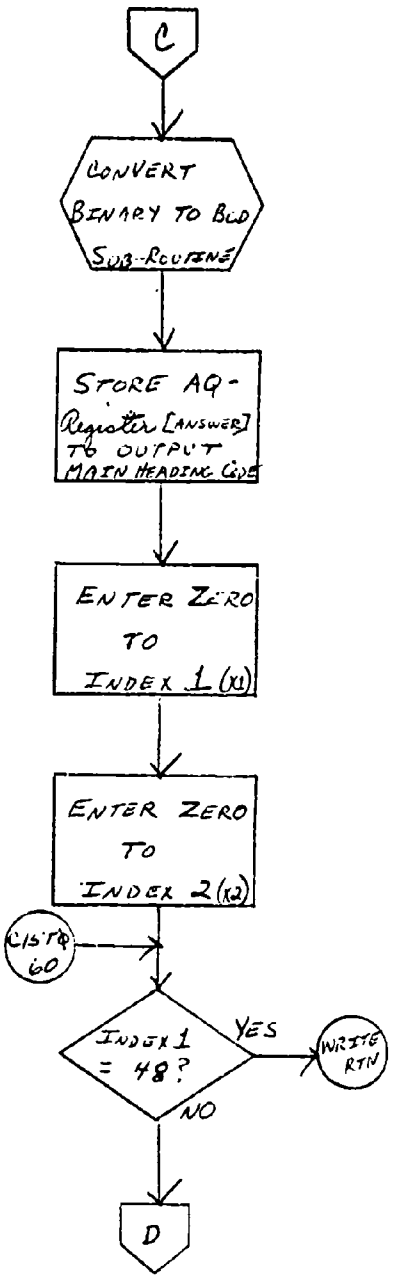
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER 5011
PAGE NUMBER 1 OF 7

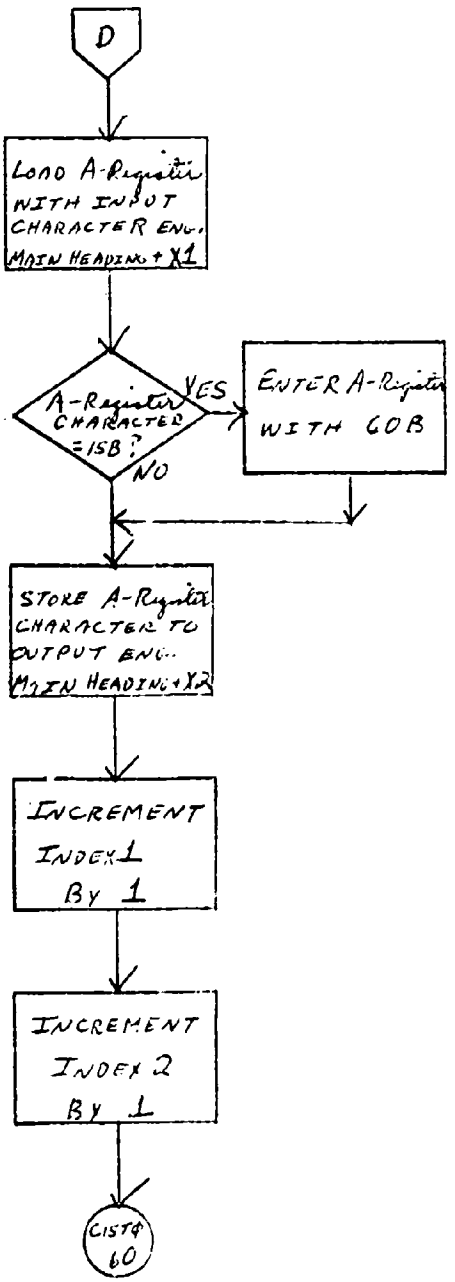


OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER 5011
PAGE NUMBER 2 OF 7

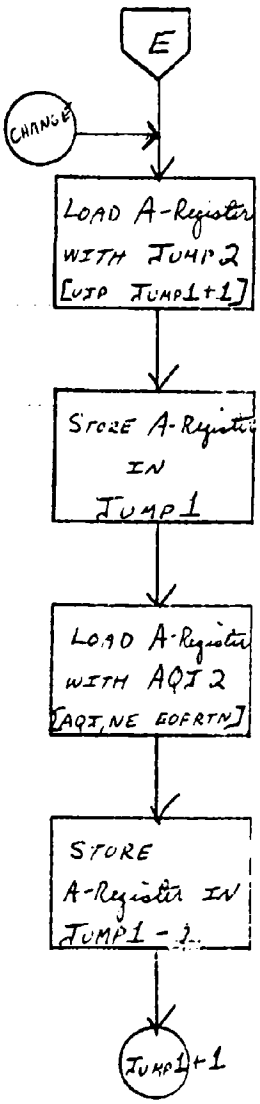


OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SD 11
PAGE NUMBER 3 OF 7

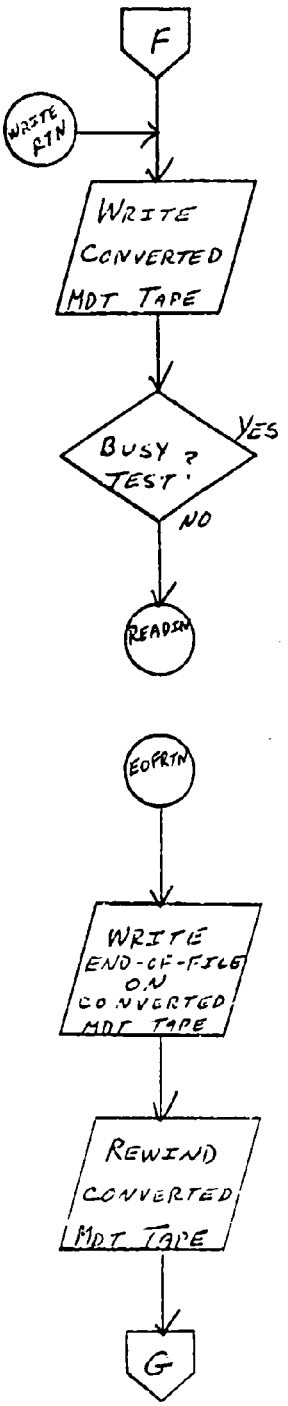



D
LOAD A-Register WITH INPUT CHARACTER ENG. MAIN HEADING + X1
A-Register CHARACTER = ISB ?
YES
ENTER A-Register WITH 60B
NO
STORE A-Register CHARACTER TO OUTPUT ENG. MAIN HEADING + X2
INCREMENT INDEX 1 BY 1
INCREMENT INDEX 2 BY 1
CIST@ 60

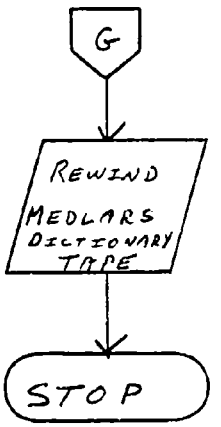
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SD11



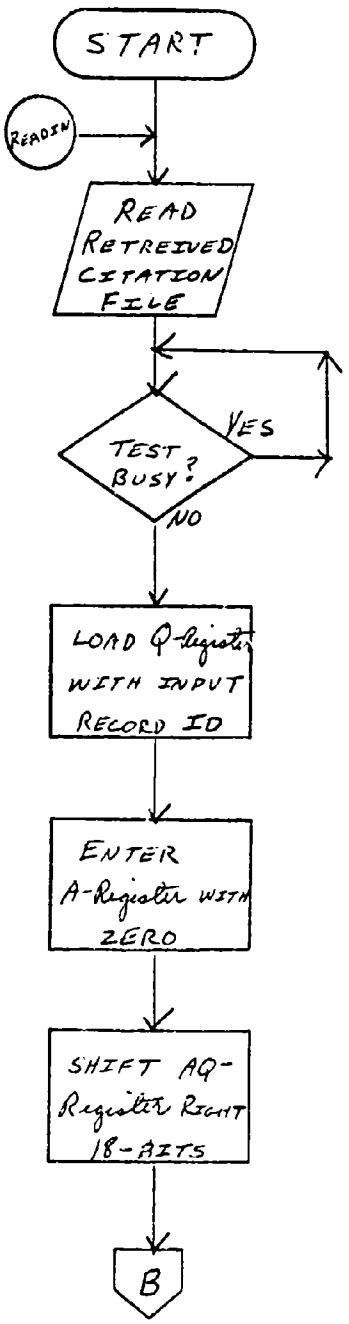
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SDH
PAGE NUMBER 6 OF 7



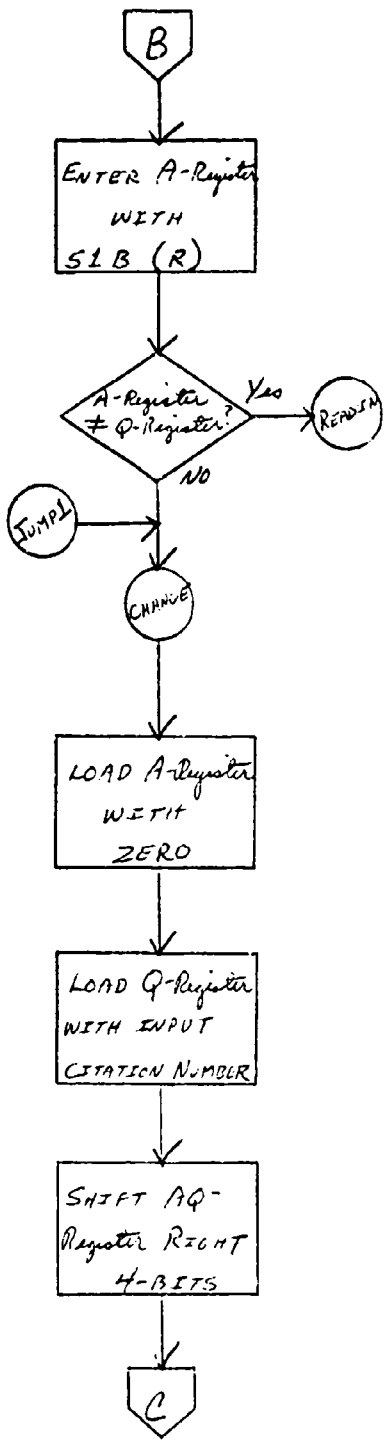
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SD11
PAGE NUMBER 7 OF 7



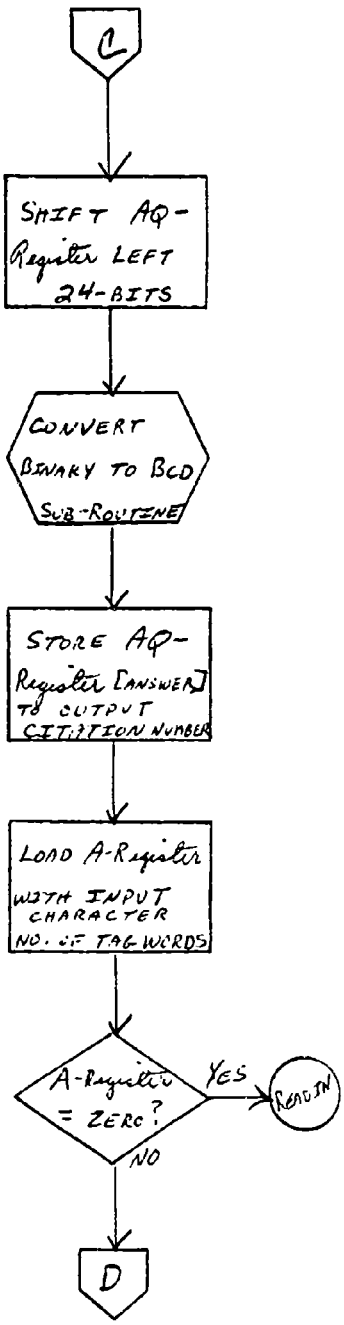
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SD12
PAGE NUMBER 1 OF 25



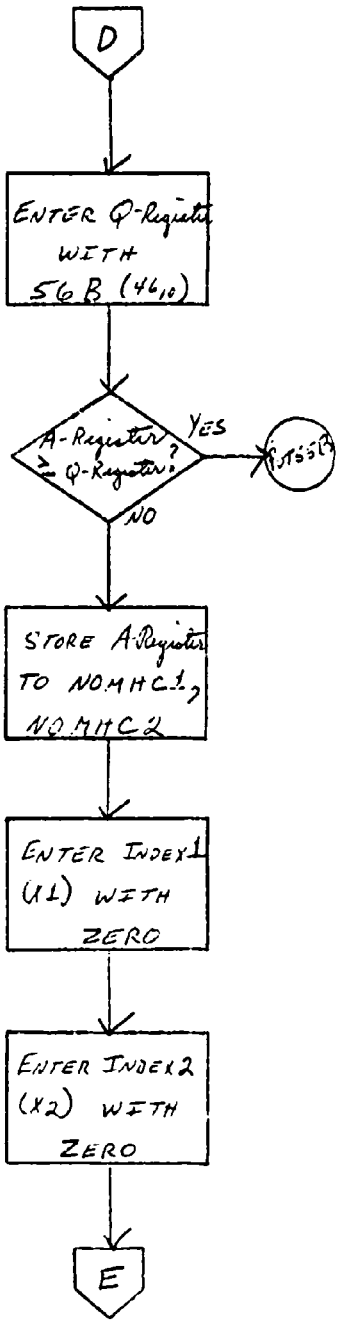
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER 5D12
PAGE NUMBER 2 OF 25

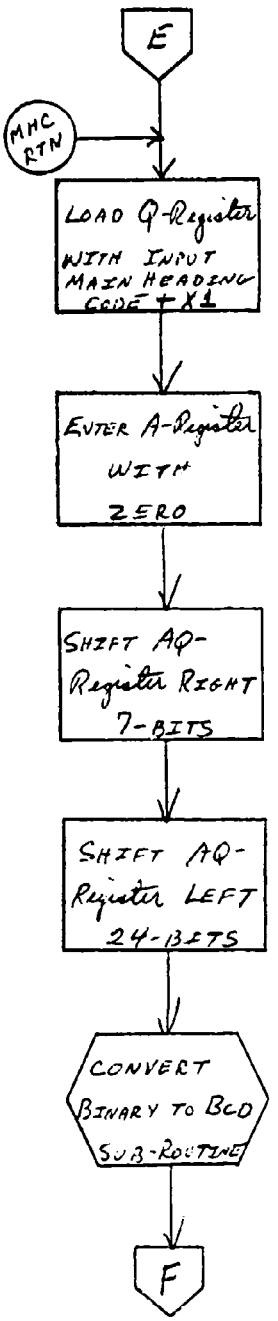


OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SD12
PAGE NUMBER 3 OF 25

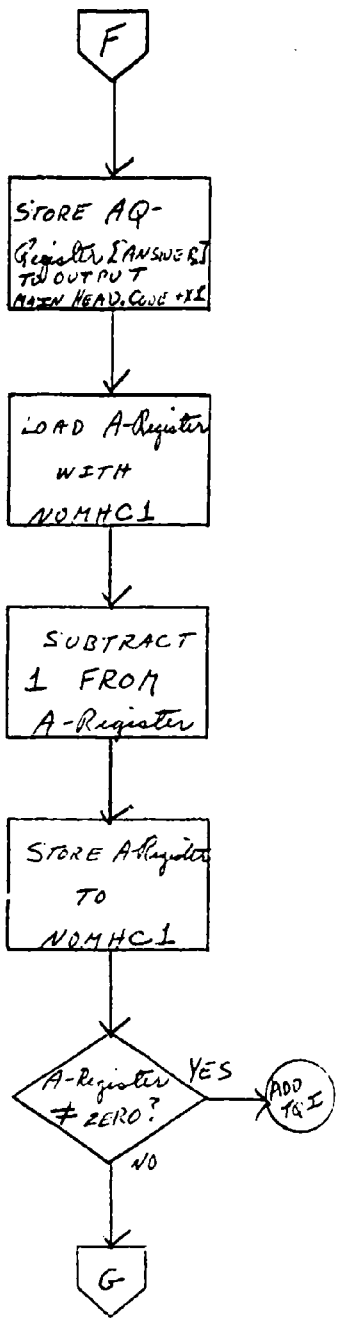


OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SD12
PAGE NUMBER 4 OF 25

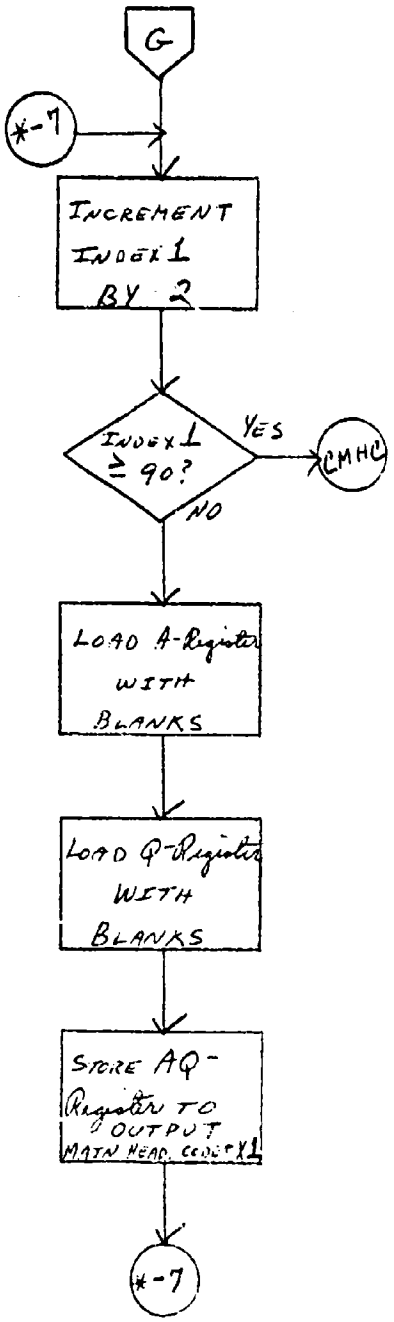


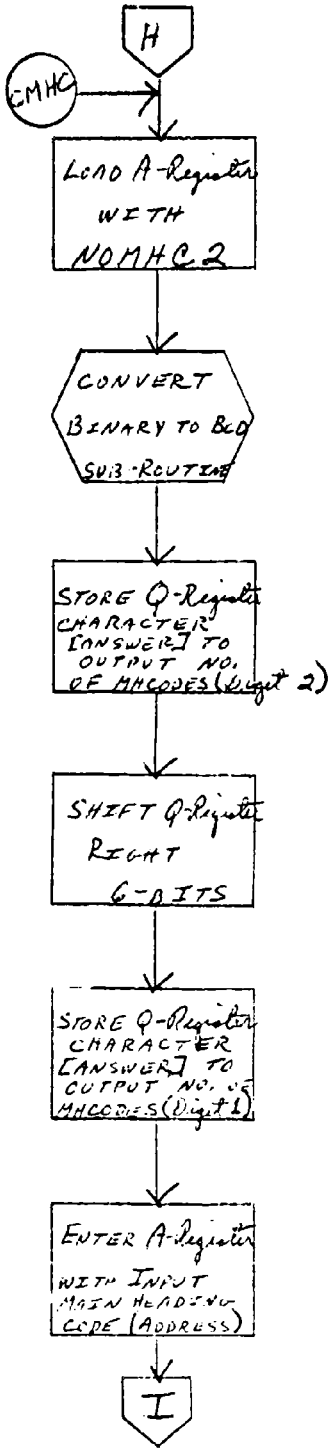

E
MHC RTN
LOAD Q-Register WITH INPUT MAIN HEADING CODE + X1
ENTER A-Register WITH ZERO
SHIFT AQ-Register RIGHT 7-BITS
SHIFT AQ-Register LEFT 24-BITS
CONVERT BINARY TO BCD SUB-ROUTINE
F

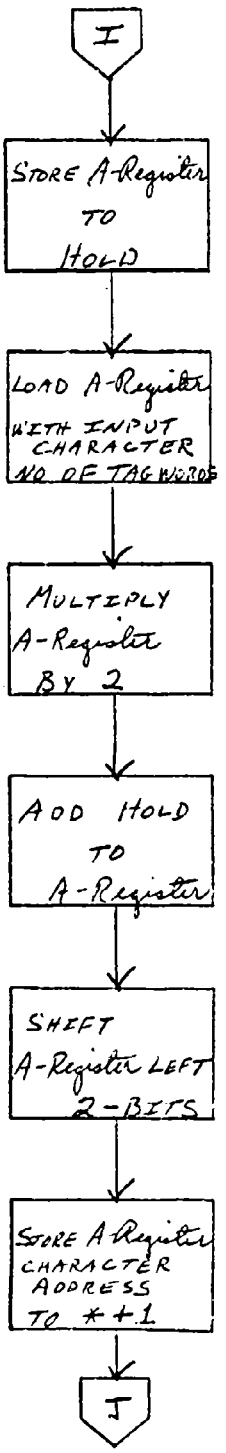
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SD12
PAGE NUMBER 6 OF 25



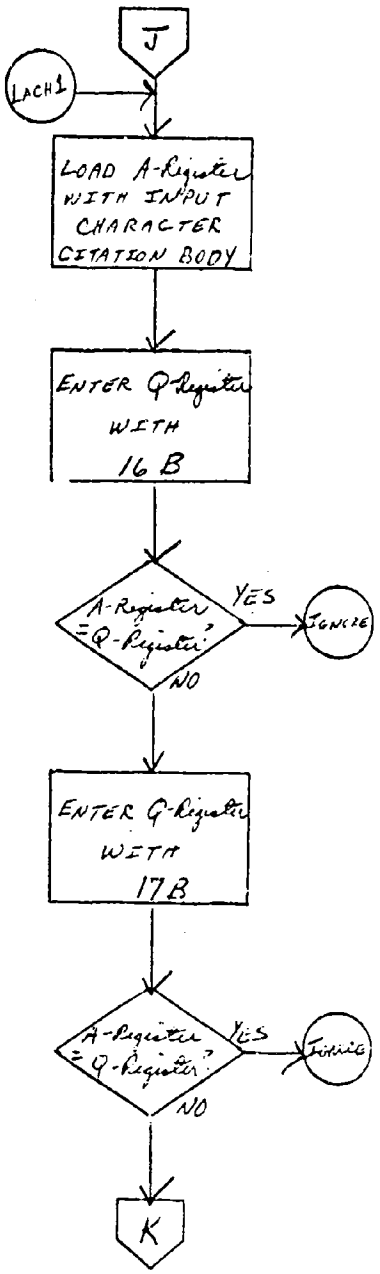
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SD12
PAGE NUMBER 7 OF 25



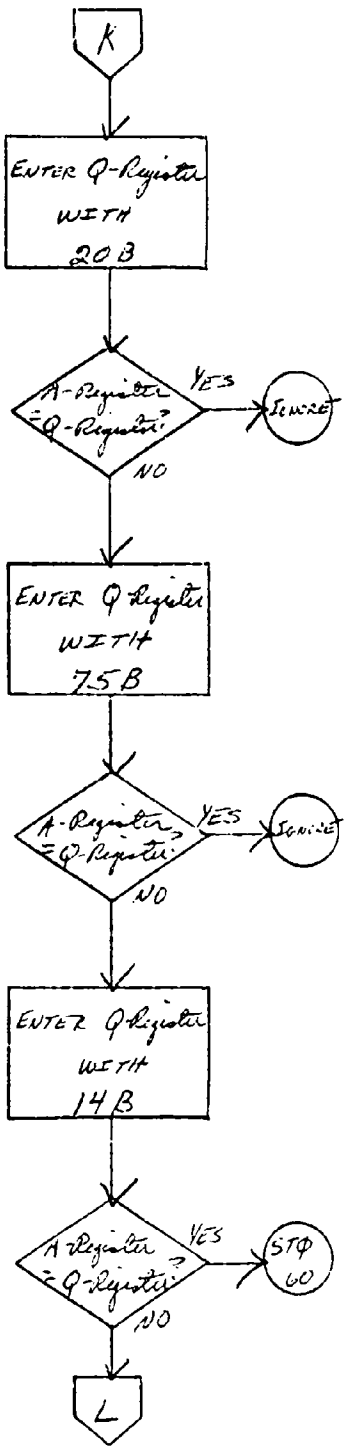

H
CMHC
LOAD A-Register WITH NOMHC2
CONVERT BINARY TO BCD SUB-ROUTINE
STORE Q-Register CHARACTER [ANSWER] TO OUTPUT NO. OF MHCODES (Digit 2)
SHIFT Q-Register RIGHT 6-BITS
STORE Q-Register CHARACTER [ANSWER] TO OUTPUT NO. OF MHCODES (Digit 1)
ENTER A-Register WITH INPUT MAIN HEADING CODE (ADDRESS)
I

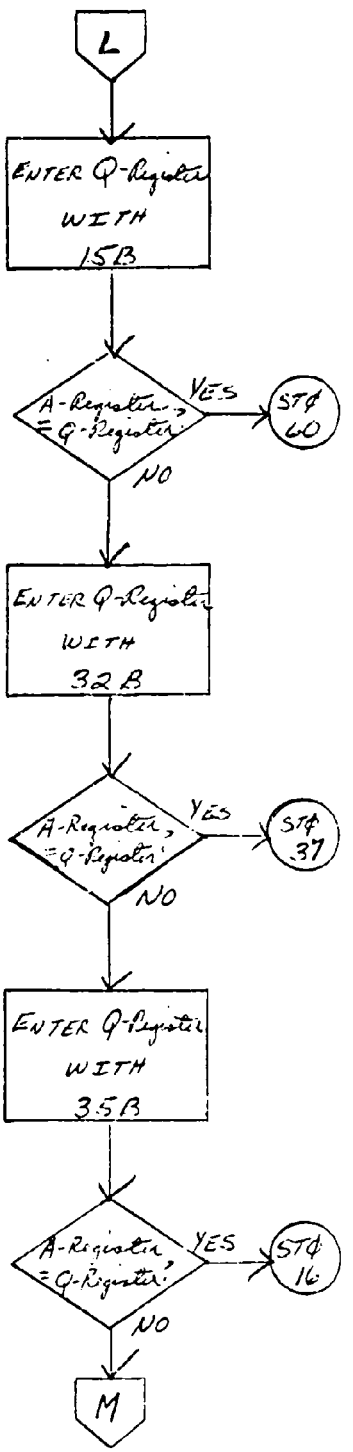

I
STORE A-Register TO HOLD
LOAD A-Register WITH INPUT CHARACTER
NO. OF TAG WORDS
MULTIPLY A-Register BY 2
ADD HOLD TO A-Register
SHIFT A-Register LEFT 2-BITS
STORE A Register CHARACTER ADDRESS TO *+1
J

OFFICE SYMBOL _____
SYSTEM CHART NO. _____
RUN NUMBER SD12
PAGE NUMBER 10 OF 25

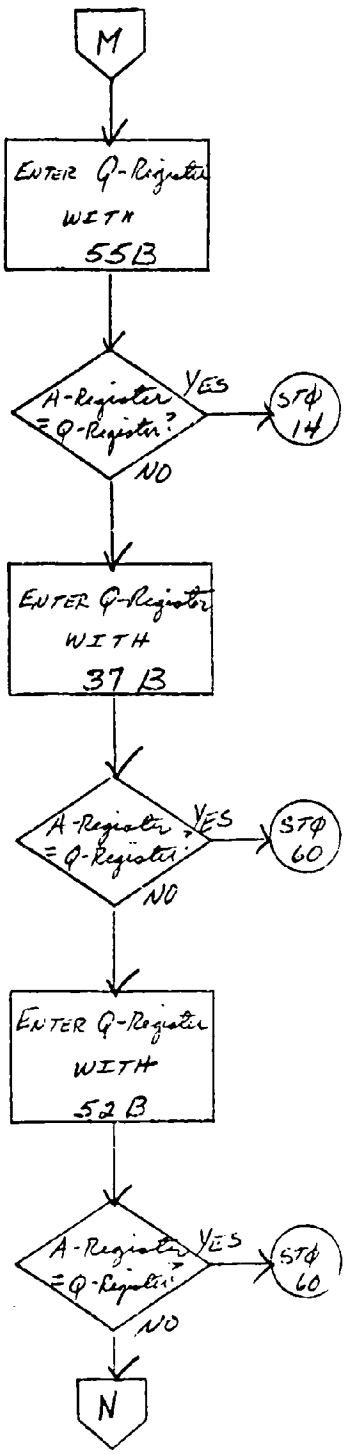


OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SD12
PAGE NUMBER 11 OF 25

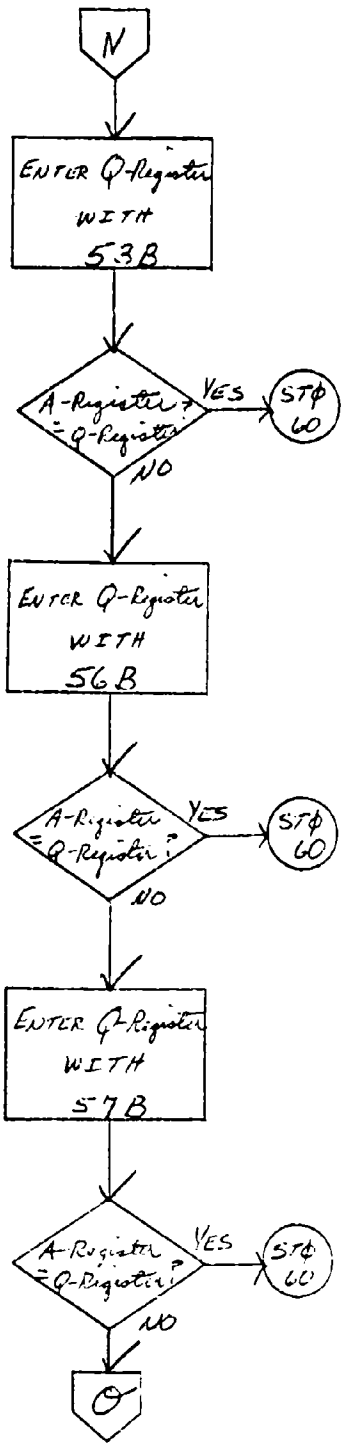



L
ENTER Q-Register WITH 15B
A-Register = Q-Register?
YES
STØ 60
NO
ENTER Q-Register WITH 32B
A-Register = Q-Register?
YES
STØ 37
NO
ENTER Q-Register WITH 35B
A-Register = Q-Register?
YES
STØ 16
NO
M

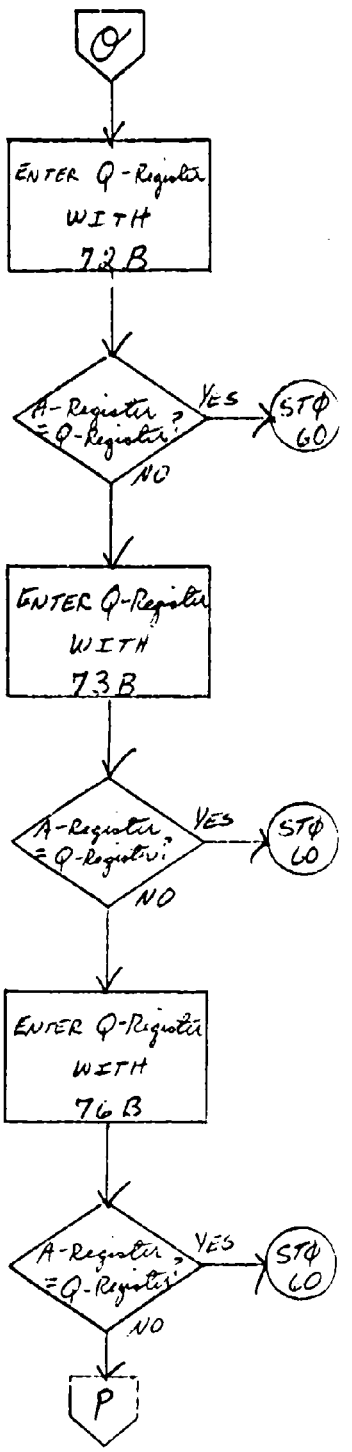
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER 5012
PAGE NUMBER 13 OF 25



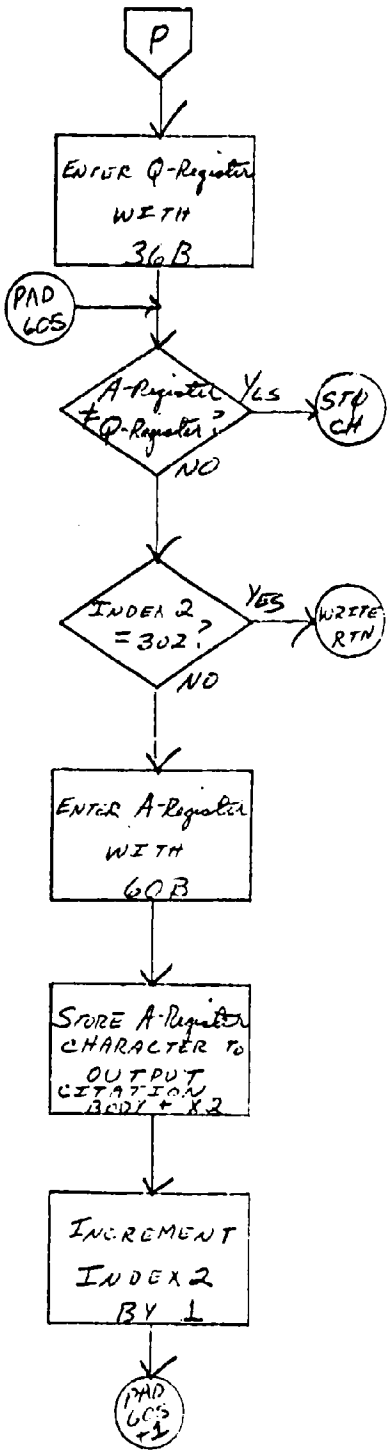
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER 5012
PAGE NUMBER 14 OF 25



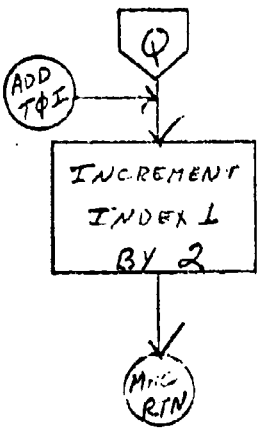
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SD12
PAGE NUMBER 15 OF 25

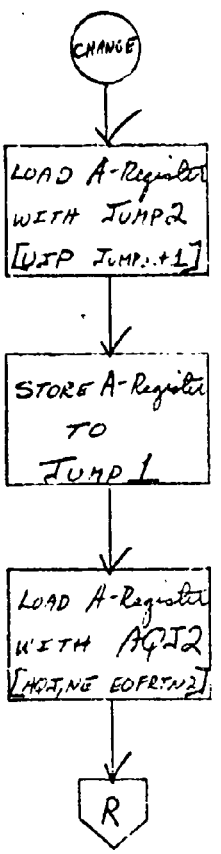


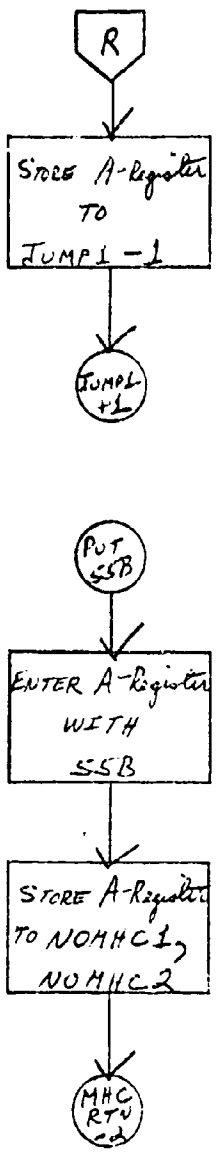
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER 5D12



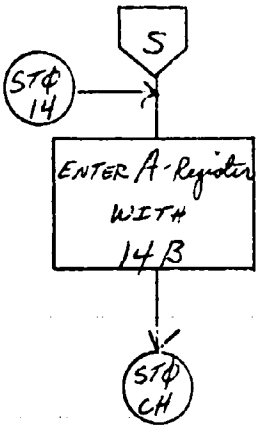
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SD12
PAGE NUMBER 17 OF 25

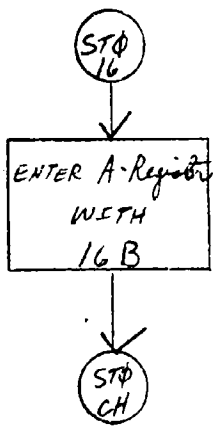




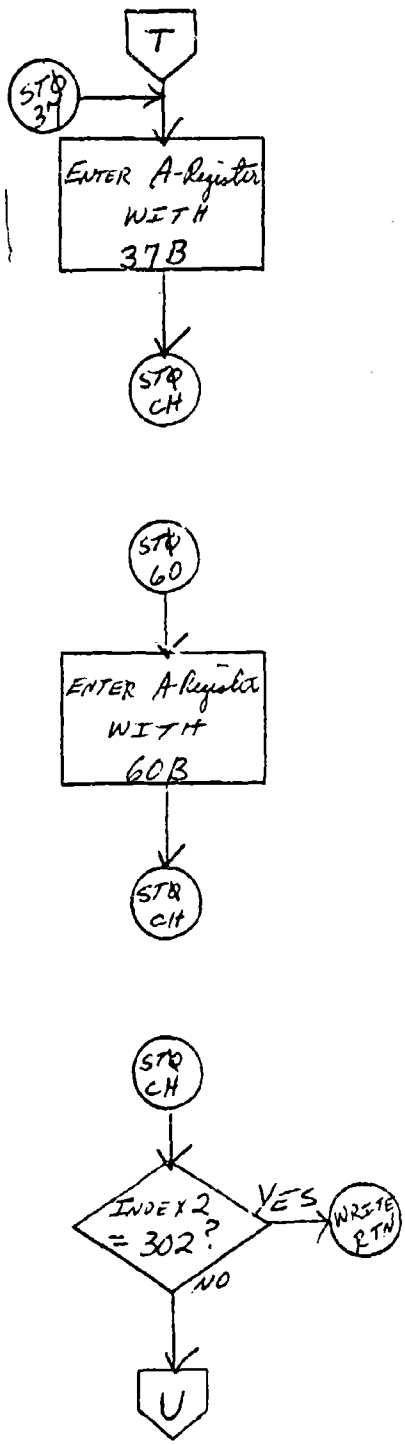

R
STORE A-Register TO JUMP1 -1
JUMP1 +1
PUT SSB
ENTER A-Register WITH SSB
STORE A-Register TO NOMHC1, NOMHC2
MHC RTN -2

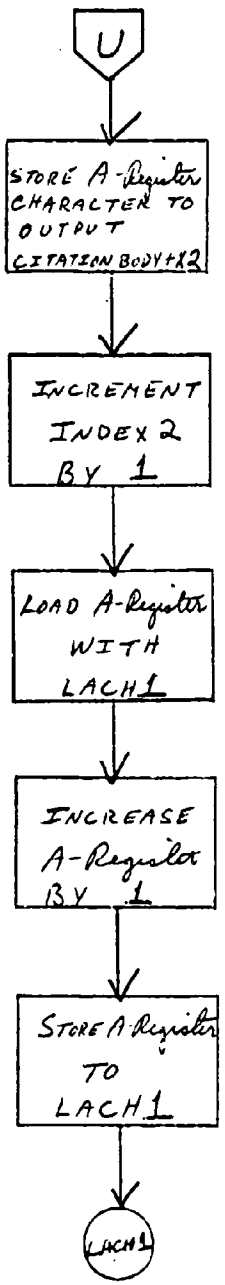
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SD12
PAGE NUMBER 19 OF 25

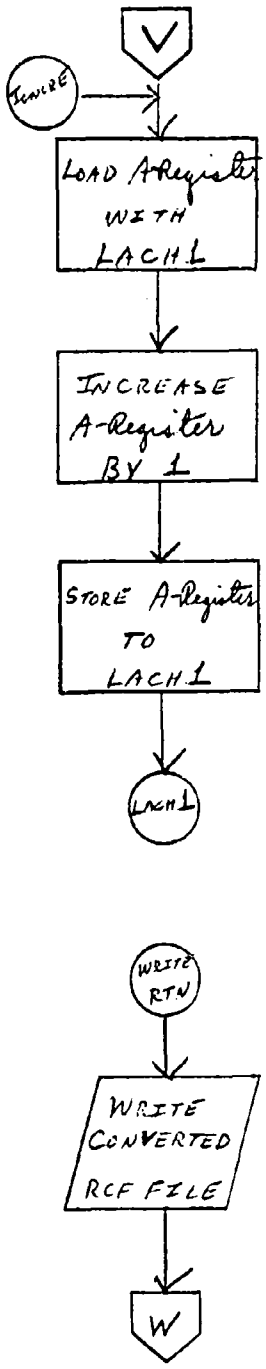


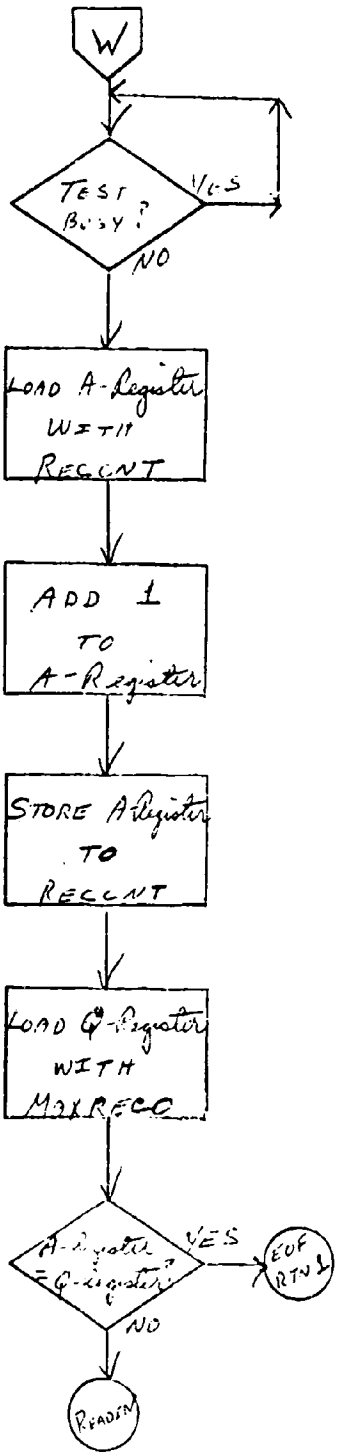


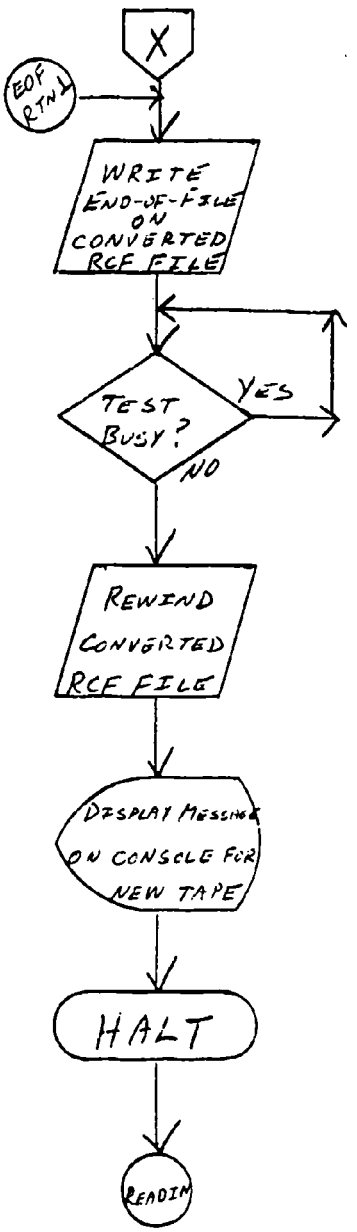
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER 5D12

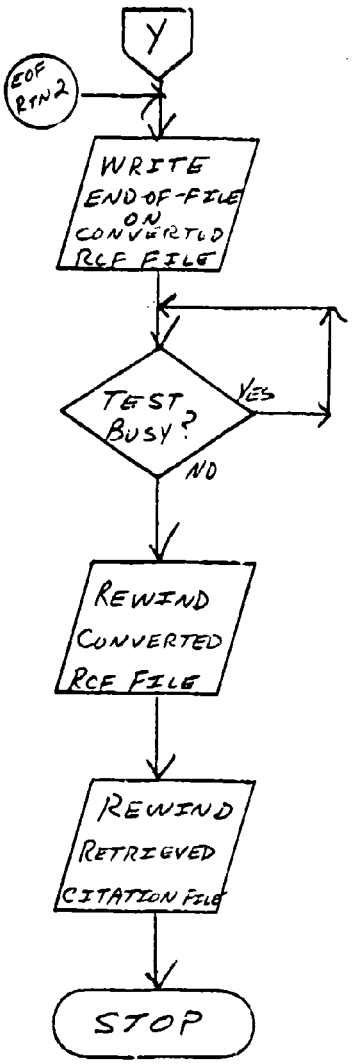



U
STORE A-Register CHARACTER TO OUTPUT CITATION BODY+X2
INCREMENT INDEX 2 BY 1
LOAD A-Register WITH LACH1
INCREASE A-Register BY 1
STORE A-Register TO LACH1
LACH1

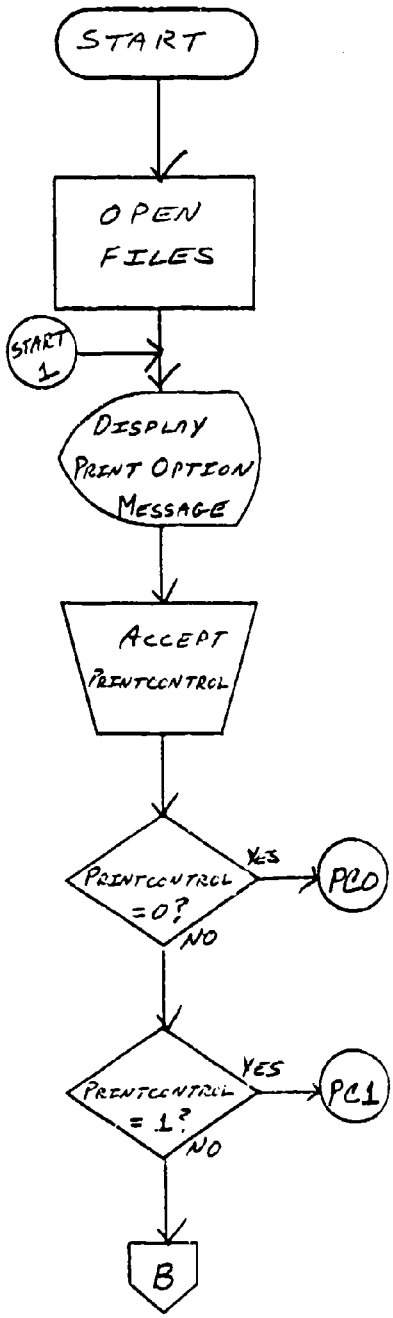

V
FEATURE
LOAD A-Register WITH LACH L
INCREASE A-Register BY 1
STORE A-Register TO LACH L
LACH L
WRITE RTN
WRITE CONVERTED RCF FILE
W

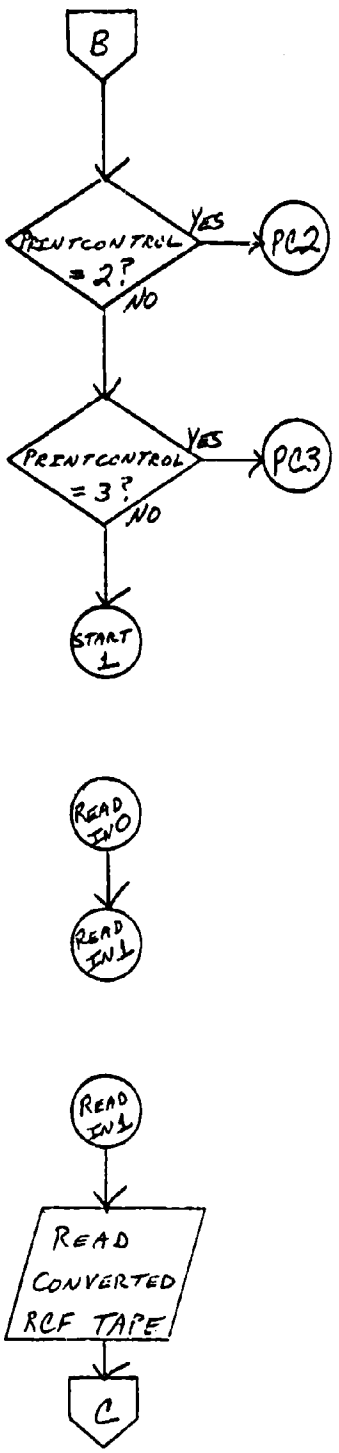

W
TEST BUSY?
YES
NO
LOAD A-Register WITH RECCNT
ADD 1 TO A-Register
STORE A-Register TO RECCNT
LOAD Q-Register WITH MAXRECC
A-Register = Q-Register?
YES
EOF RTN
NO
READIN


X
EOF RTN 1
WRITE END-OF-FILE ON CONVERTED RCF FILE
TEST BUSY?
YES
NO
REWIND CONVERTED RCF FILE
DISPLAY MESSAGE ON CONSOLE FOR NEW TAPE
HALT
READIN

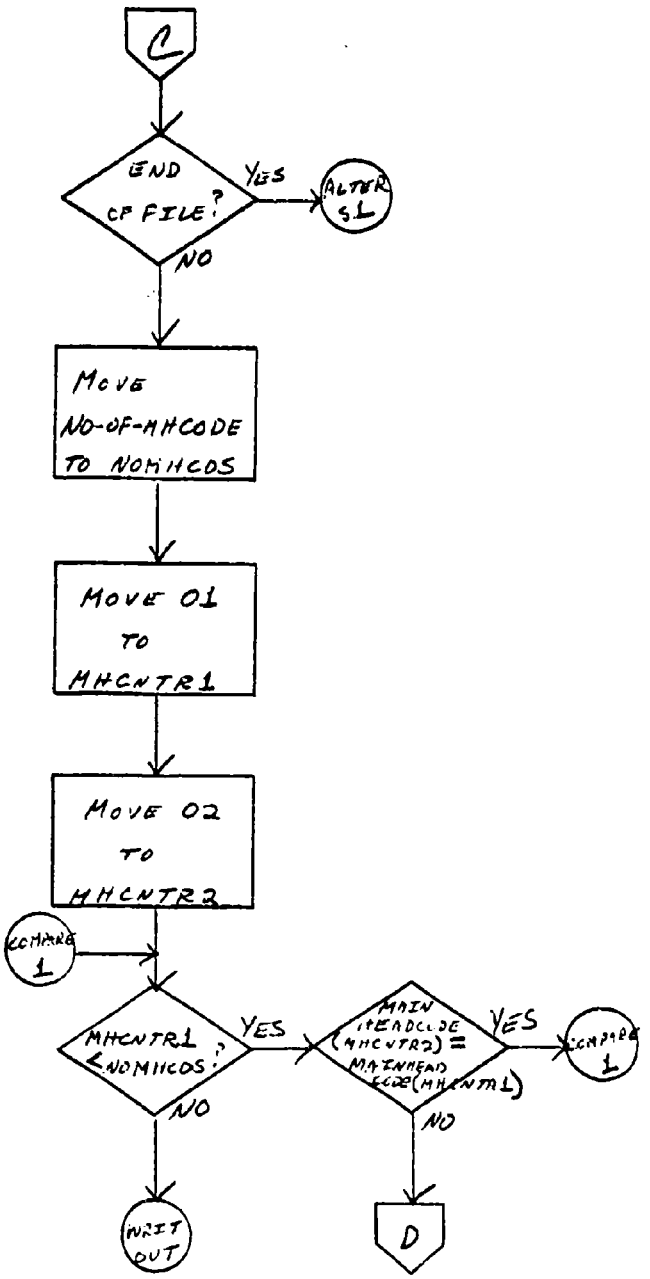

Y
EOF RTN 2
WRITE END-OF-FILE ON CONVERTED RCF FILE
TEST BUSY?
YES
NO
REWIND CONVERTED RCF FILE
REWIND RETRIEVED CITATION FILE
STOP

OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SD13
PAGE NUMBER 1 OF 14

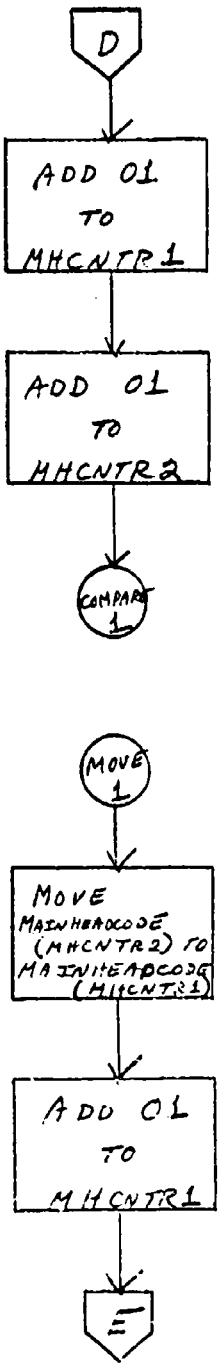



B
PRINTCONTROL = 2?
YES
PC2
NO
PRINTCONTROL = 3?
YES
PC3
NO
START 1
READ IN0
READ IN1
READ IN1
READ CONVERTED RCF TAPE
C

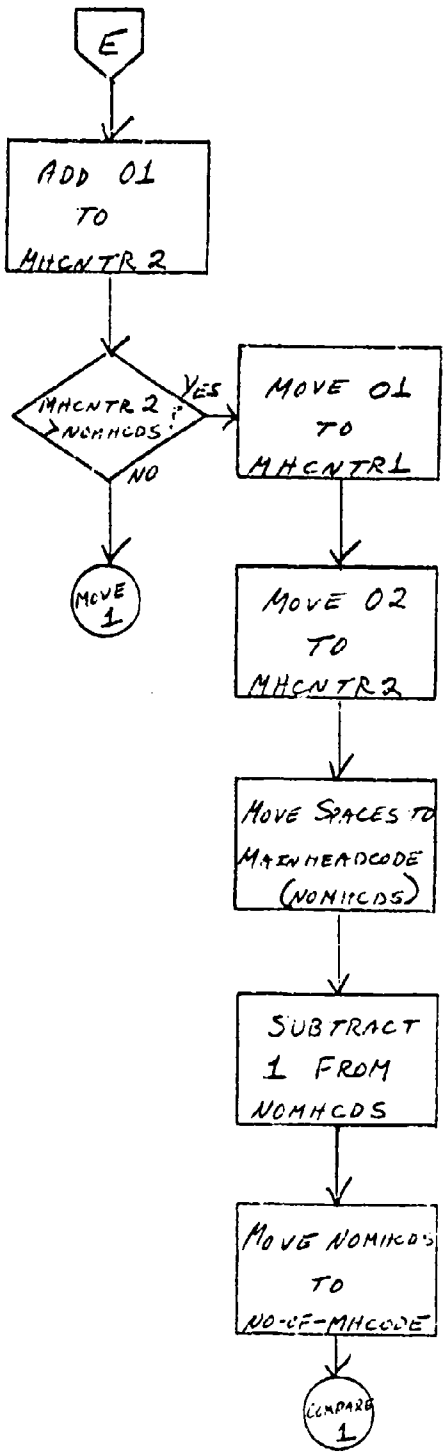
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER 3DB
PAGE NUMBER 3 OF 14



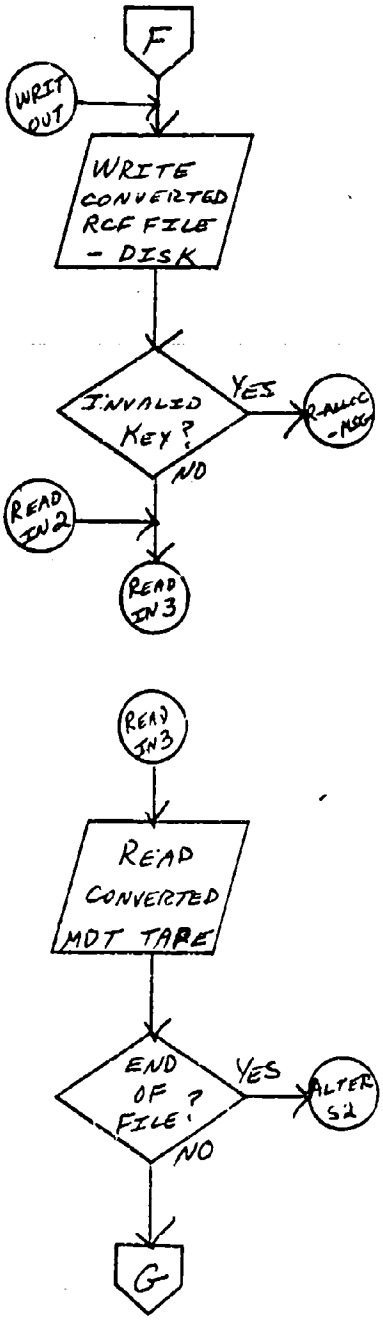
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER 5D13
PAGE NUMBER 4 OF 14



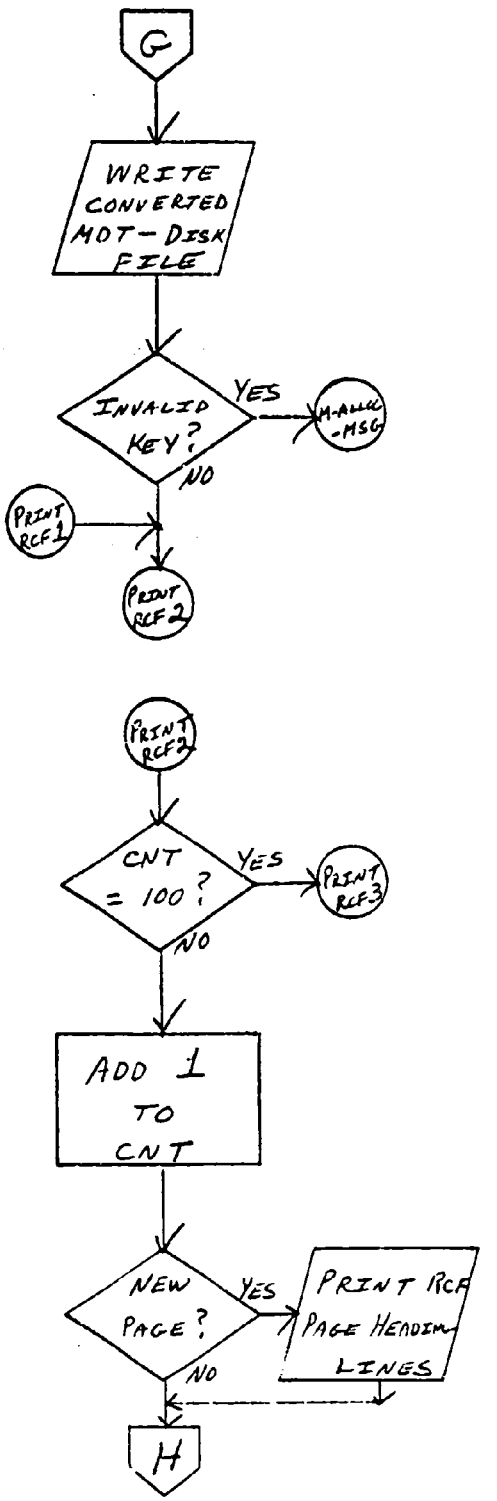
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SD13
PAGE NUMBER 5 OF 14



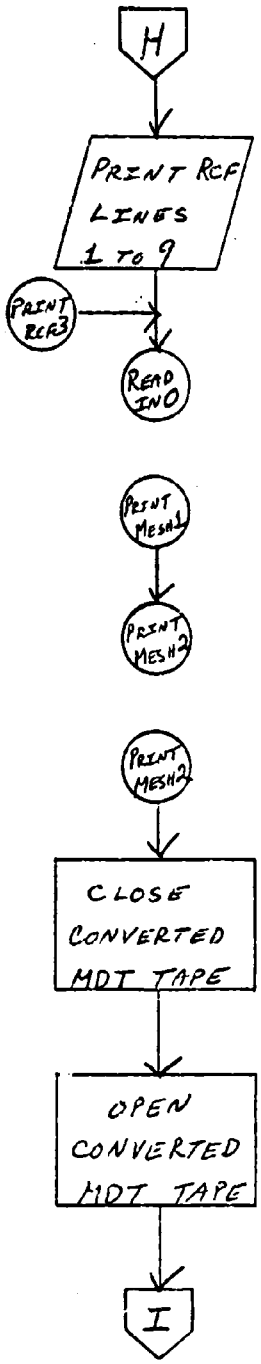
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER 5013
PAGE NUMBER 6 OF 14



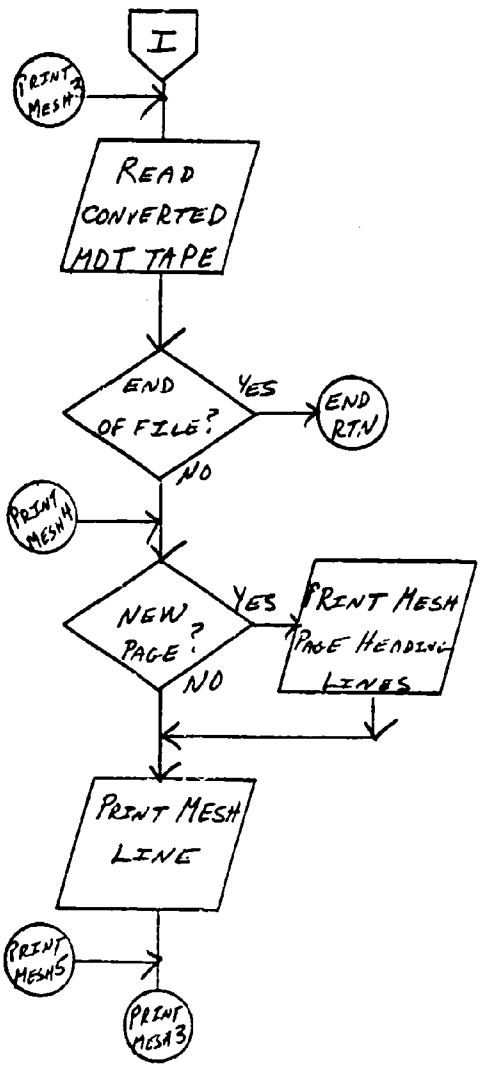
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SD13
PAGE NUMBER 7 OF 14

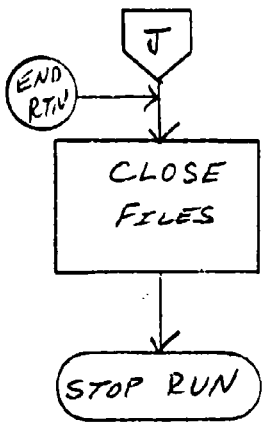


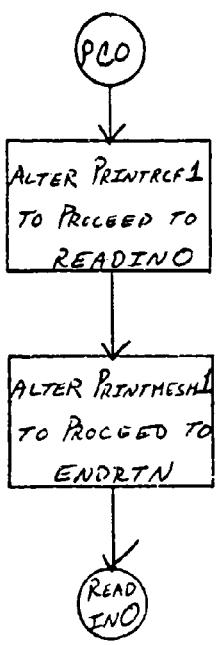
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SD13
PAGE NUMBER 8 OF 14



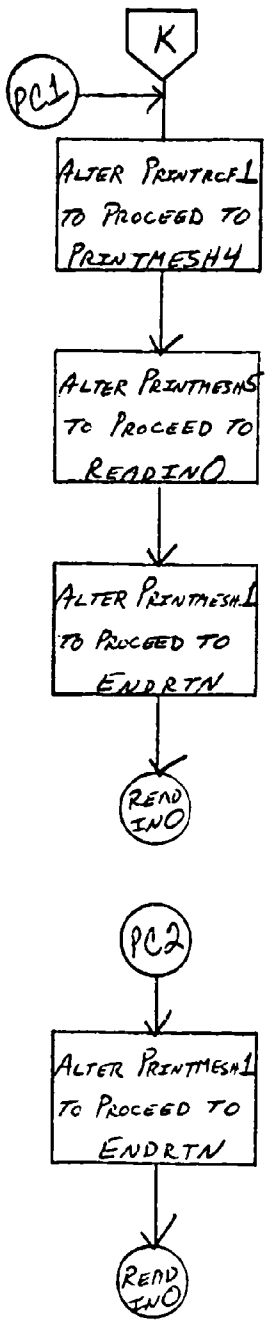
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER SD13
PAGE NUMBER 9 OF 14

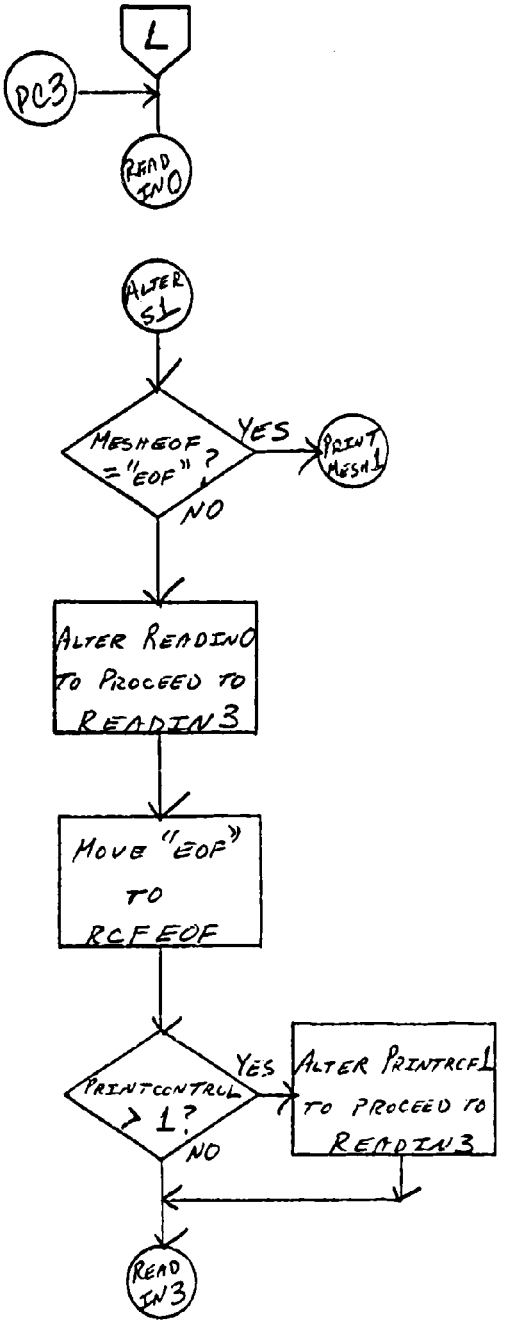


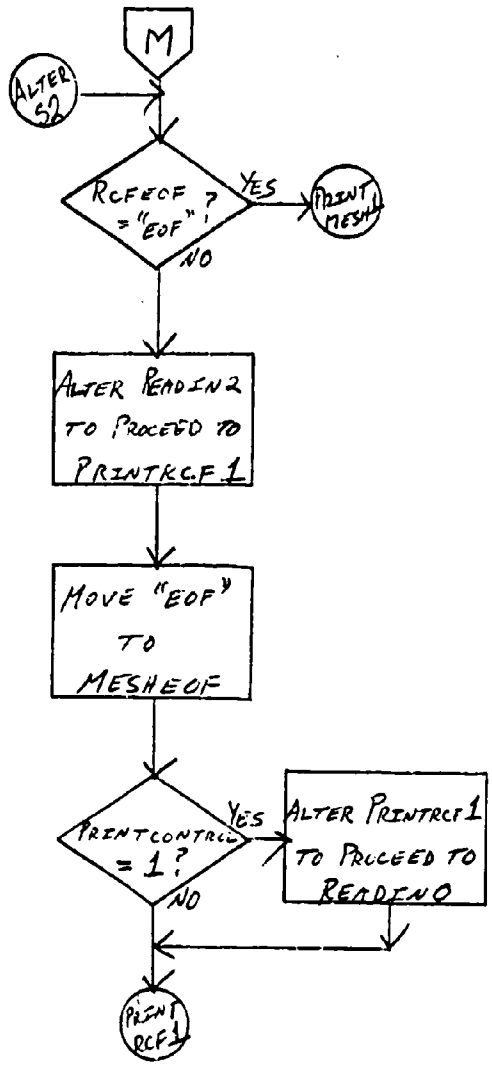

J
END RTN
CLOSE FILES
STOP RUN


PCO
ALTER PRINTRCF1 TO PROCEED TO READIN0
ALTER PRINTMESH1 TO PROCEED TO ENDRTN
READ IN0

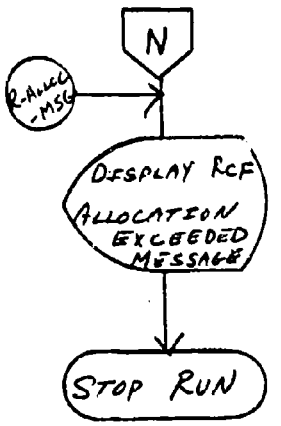
OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER 3D13
PAGE NUMBER 11 OF 14

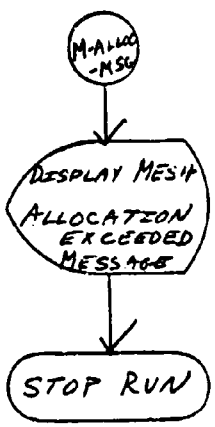



L
PC3
READ IN0
ALTER S1
MESHEOF = "EOF" ?
YES
PRINT MESH1
NO
ALTER READIN0 TO PROCEED TO READIN3
MOVE "EOF" TO RCFEOF
PRINTCONTROL > 1 ?
YES
ALTER PRINTRCF1 TO PROCEED TO READIN3
NO
READ IN3


M
ALTER 52
RCFEOF ? = "EOF" !
YES
PRINT MESH
NO
ALTER READIN2 TO PROCEED TO PRINTRCF1
MOVE "EOF" TO MESHEOF
PRINTCONTRL = 1 ?
YES
ALTER PRINTRCF1 TO PROCEED TO READIN0
NO
PRINT RCF1

OFFICE SYMBOL
SYSTEM CHART NO.
RUN NUMBER 5013
PAGE NUMBER 14 OF 14





MEDIA: TAPE/DISK
TITLE: CONVERTED MDT TAPE

DATA PROCESSING STORAGE FORMAT

BIT / FIELD TYPE			
DATA	ENGLISH MAIN HEADING	MAIN HEADING CODE	

BIT / FIELD TYPE	
DATA	

BIT / FIELD TYPE	
DATA	

BIT / FIELD TYPE	
DATA	

FILE NAME:
RECORD LENGTH: 56
BLOCKING FACTOR: 1/9

AMC, [illegible] 1631 R

MEDIA: TAPE/DISK
TITLE: CONVERTED RCE FILE.

DATA PROCESSING STORAGE FORMAT

BIT FIELD TYPE		
DATA	CITATION NUMBER	CITATION BODY

BIT FIELD TYPE	
DATA	CONT'D CITATION BODY

BIT FIELD TYPE	
DATA	CONT'D CITATION BODY

BIT FIELD TYPE											
DATA	NO. OF MH SUBJECTS	MAIN HEADING CODE 1	2	3	4	5	6	7	8	9	10	11

FILE NAME:
RECORD LENGTH: 672
BLOCKING FACTOR: 1/3

MEDIA: TAPE/DISK
TITLE: CONVERTED RCF FILE

DATA PROCESSING STORAGE FORMAT

BIT												
FIELD TYPE												
DATA	MAIN HEADING CODE											
	12	13	14	15	16	17	18	19	20	21	22	23

BIT												
FIELD TYPE												
DATA												
	24	25	26	27	28	29	30	31	32	33	34	35	36

BIT									
FIELD TYPE									
DATA									
	37	38	39	40	41	42	43	44	45

BIT	
FIELD TYPE	
DATA	

FILE NAME:
RECORD LENGTH: 672
BLOCKING FACTOR: 1/3

SD 13

MEDICAL SUBJECT HEADINGS

PAGE NUMBER - XXX

MAIN HEADING CODE	ENGLISH MAIN HEADING
XXXXXXXX	X——————————————————X
XXXXXXXX	X——————————————————X
XXXXXXXX	X——————————————————X
XXXXXXXX	X——————————————————X

SD13

RETRIEVED CITATIONS

PAGE NUMBER = XXX

CITATION NUMBER = XXXXXX

NUMBER OF MAIN HEADING CODES = XX

CITATION BODY

MAIN HEADING CODES

CITATION NUMBER = XXXXXX

NUMBER OF MAIN HEADING CODES = XX

CITATION BODY

MAIN HEADING CODES XXXXXXXX

UNCLASSIFIED
Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

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3. REPORT TITLE

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(Conversion Programs for SDI)

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)

Final Report

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13. ABSTRACT

COBOL programs for the CDC 3150 convert National Library of Medicine's tapes to an acceptable mode and parity for use in a Selective Dissemination of Information System, described in Volume I.

DD FORM 1 NOV 68 1473 REPLACES DD FORM 1473, 1 JAN 64, WHICH IS OBSOLETE FOR ARMY USE.

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